DOCUMENT RESUME

ED 380 596 CE 068 496

TITLE	Keyboarding and Computer Application. Technology Learning Activity. Teacher Edition. Technology Education Series.
INSTITUTION	Oklahoma State Dept. of Vocational and Technical Education, Stillwater. Curriculum and Instructional Materials Center.
PUB DATE	93
NOTE	173p.; "Typing Tutor 5+" software is published by Prentice Hall.
AVAILABLE FROM	Curriculum and Instructional Materials Center, Oklahoma Dept. of Vocational and Technical Education, 1500 West Seventh Avenue, Stillwater, OK 74074 (instructional package, one teacher and one student edition, order no. TE2115: $38; student edition, TE3115: $14).
PUB TYPE	Guides - Classroom Use - Teaching Guides (For Teacher) (052)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Career Education; Career Exploration; Clerical Occupations; *Computer Oriented Programs; Data Processing Occupations; Instructional Materials; Integrated Curriculum; Intermediate Grades; *Keyboarding (Data Entry); *Learning Activities; Learning Modules; Microcomputers; Office Occupations Education; Secondary Education; State Curriculum Guides; Teaching Guides; *Technology Education; Typewriting; Word Processing

ABSTRACT

This curriculum guide is designed to prepare students in grades 6-10 to work in the world of the future. The 8-day course provides exploratory, hands-on learning activities and information that can enhance the education of students of all types in an integrated curriculum that provides practical applications of academic skills. The guide contains both instructor and student sections. The instructor's section includes the following: background information; expected learner outcomes; suggested activities; suggested resources; instructional sequence; equipment, tools, and supplies worksheet; pretest and posttest with answers; and an evaluation summary. Contents of the student's section are as follows: an introduction; summary of activities; pretest and posttest instructions; assignments; goal; glossary; expected learner outcomes; objectives; related Technology Student Association events; academic and workplace applications; impact statements; career information; and an optional activity that could be used for solving problems or reinforcing learning. This guide contains activities for learning the following keyboarding and computer applications: typing basics, using computer menus, printing work, typing letters, and data processing basics. Some of the activities are based on "Typing Tutor 5+" computer software. (KC)

ED 380 596

Technology Learning Activity

Technology Education Series

KEYBOARDING AND COMPUTER APPLICATION

TLA TE-1115

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL IN **OTHER THAN PAPER COPY** HAS BEEN GRANTED BY

B Frazier

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)"

UNITED STATES OF AMERICA

BEST COPY AVAILABLE

CE068 496

CIMC

Teacher Edition

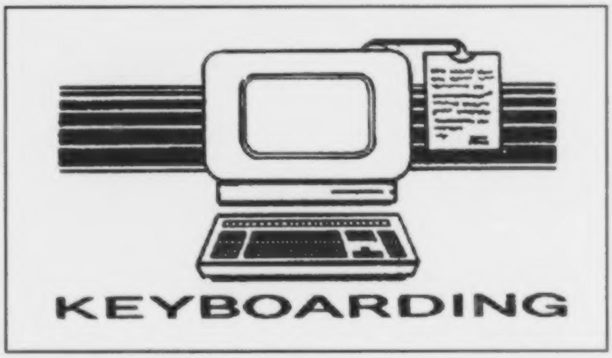
Oklahoma Department of
Vocational and Technical Education
1500 West Seventh Avenue
Stillwater, OK 74074-4364

TECHNOLOGY EDUCATION

TECHNOLOGY
LEARNING
ACTIVITY
TE1115

KEYBOARDING AND COMPUTER APPLICATIONS

Suggested Time: 8 Days



Developed by the
Curriculum and Instructional Materials Center
for the Technology Education Division
Oklahoma Department of Vocational and Technical Education

93-009810

©
Copyright 1993

Oklahoma Department of
Vocational and Technical Education
Curriculum and Instructional Materials Center

All rights reserved.

Printed in the United States of America by the
Oklahoma Department of Vocational and Technical Education
Stillwater, Oklahoma 74074-4364

Menu screens and pull-down menus are reprinted with the
permission from and under the copyright of Que Software.
Portions © 1992, Que Software
Typing Tutor is a registered trademark owned by Kriya Systems, Inc.

This publication, or parts thereof, may not be reproduced in any form by photographic, electrostatic, mechanical, or other methods, for any use including information storage and retrieval, without written permission from the publisher.

Use of commercial products in these instructional materials does not imply endorsement by the Oklahoma Department of Vocational and Technical Education.

The Oklahoma Department of Vocational and Technical Education does not discriminate on the basis of race, creed, color, national origin, sex, age, veteran status, or qualified handicap.

Cover photo courtesy NASA

TABLE OF CONTENTS

FOREWORD 4
PREFACE 5
ACKNOWLEDGEMENTS 6

TECHNOLOGY EDUCATION OVERVIEW

About the Program 8
About the TLAs 10
About Ordering TLAs 12
Corrections and Suggestions 14

USING THIS PUBLICATION: INSTRUCTOR'S SECTION

Background Information 15
Expected Learner Outcomes 15
Suggested Activities 17
Suggested Resources 18
Instructional Sequence 18
Equipment, Tools, and Supplies Summary Worksheet 18
Pretest and Posttest 19
Test Answers 19
Evaluation Summary 19

USING THIS PUBLICATION: STUDENT'S SECTION

Introduction 20
Summary of Activities for the Day 20
Pretest Instructions 21
Assignments to Turn In 21
Goal 21
Words You Should Know 21
Expected Learner Outcomes 22
Objectives 22
Related TSA Competitive Events 22
Academic and Workplace Applications 23
Impact Statements 29
Career Search 30
Posttest Instructions 30
Skunk Works 31

HAZARD ALERT MESSAGES 32

INSTRUCTOR'S SECTION 35

STUDENT'S SECTION

FOREWORD

What will be the careers of the future? The workforce of tomorrow will be shaped by the technologies being developed today. Students today need accurate, interesting information on growing technologies in order to make informed decisions about their futures.

It is our hope that this curriculum will help improve the quality of career decisions for our students. Students are introduced to a wide range of current, "cutting-edge" technologies and are encouraged to think critically about how those technologies influence their lives and futures. Today's students do not have to become the victims of "technological illiteracy," but instead can learn to anticipate technological developments and take positive steps to prepare for the future.

Technology Learning Activities provide students with the knowledge and an introduction to the skills they need for a positive learning and career experience. Every generation is faced with learning how to manage technological advances. Information gained through participation in the *Technology Education* program can help students develop a holistic view of technology on which to base their educational and career decisions.

Roy Peters, Jr., Ed.D., State Director
Oklahoma Department of
Vocational and Technical Education

Lynn Hawkins, State Supervisor
Technology Education
Oklahoma Department of
Vocational and Technical Education

PREFACE

We believe that one of the most effective ways to improve education is through the development and implementation of a sound instructional materials system. Technology Education instructional materials represent a new design for CIMC which recognizes the importance of graphic materials in the learning process.

Technology Education instructional materials are designed for 6th through 10th grade students. The design of these materials is based on current research on how people read and gain information from documents. The design is called "New Look" and integrates both graphics and text into a balanced presentation which is easy to use and follow.

Technology Education provides the student a look at what the world will be like in the future based on technologies in use and being developed today. Throughout the Technology Education instructional materials, the students are introduced to "cutting-edge" technologies that they will use and encounter in a working environment later in life. This exposure gives them a wide range of experiences on which to base career decisions.

This publication is intended as a starting point, from which the teacher can innovate, localize, and personalize in order to prepare students for their future. The *Technology Education* series of Technology Learning Activities was written with the realization that we are creating the workforce of tomorrow by how and what we teach about technology today.

Sherry Wietelman, Curriculum Development Specialist
Curriculum and Instructional Materials Center
Oklahoma Department of
Vocational and Technical Education

ACKNOWLEDGEMENTS

The Curriculum and Instructional Materials Center (CIMC) extends its appreciation to those individuals who played important roles in the development of Technology Learning Activity materials.

Thank you is extended to the vocational educators who helped with field testing and contributed their expert input on individualized vocational instructional methods.

We also thank the State Director, Dr. Roy Peters, Jr., and the Assistant State Director, Dr. Charles O. Hopkins, for their continued support throughout this project.

The school administrators who supported instructor participation in this project and/or allowed their facilities to be used as field test sites in this project deserve a special thank you, as well.

Oklahoma Department of Vocational and Technical Education Technology Education staff who provided leadership and direction on this project also deserve special recognition.

Lynn Hawkins
State Supervisor
Technology Education

Donovan Bowers
Assistant State Supervisor
Technology Education

Harold Holley
Assistant State Supervisor
Technology Education

Special thanks go to Tracy Boyington for developing, formatting, and producing camera-ready copy for this TLA.

Only through the close cooperation of the Curriculum and Instructional Materials Center staff was this curriculum developed. Sincere thanks are shared with the CIMC coordinators.

John Friedemann
CIMC Coordinator

Lynna Ausburn, Ph.D.
CIMC Development Coordinator

Special recognition and thanks are also extended to other individuals within the Oklahoma Department of Vocational and Technical Education (ODVTE) involved in the development and distribution process: Noel Wilcoxson, Danny Darrow and Diane Ensign and their staffs at the ODVTE Print Shop; Bob Davis and staff artist Kathryn Moore for the cover design; and Darrel Stiles and his staff in the ODVTE Warehouse for packaging and coordinating transportation and distribution of these materials.

Finally, a big thank you to all ODVTE team members who offer their support on a daily basis in "behind-the-scenes" ways but never seem to be recognized for their contributions: Suzanne Perry and Terri Tomson, CIMC secretaries; Brenna Tillman and Charlotte Tarkington, CIMC desktop publishing team, and Shirley Hill, Technology Education secretary.

Sherry Wietelman
Curriculum Development Specialist
Curriculum and Instructional Materials Center
Oklahoma Department of Vocational and Technical Education

TECHNOLOGY EDUCATION OVERVIEW

About the Program

Because the American culture is distinctly characterized as technological, it becomes the function of our schools to give every student an insight into and an understanding of the technological nature of the culture. Technology Education strives to perform this function.

Technology Education in Oklahoma is an instructional program that provides young men and women (grades 6 - 10) with daily, hands-on exploratory experiences and insights into technology and career opportunities so that they can make meaningful occupational and educational choices. It is a program which can enhance the educational experience of all students, whether they are the valedictorian/honor-type student, the middle range/average student, or the student who has found little success in school, namely the at-risk student.

Technology Education acquaints all students with their technological environment so they can make rational decisions about their own lives on a day-to-day basis and participate in controlling their own destiny. The program directs students to related technological and industrial fields, enabling students to realize their full potential and make maximum use of their individual talents in fulfilling career goals in their selected areas of employment.

Technology education capitalizes on the individual's potential for reasoning and problem solving, for imagining and creating, and for constructing and expressing through the use of tools and materials related to technology. It develops content and

TECHNOLOGY EDUCATION OVERVIEW

experiences to contribute to the growth and development of students commensurate with their potential. Thus, Technology Education is a basic and fundamental study for all persons in regard to career explorations and educational opportunities.

Opportunities to develop and apply leadership, social, civic, and technologically related skills are provided through the Technology Student Association (TSA). TSA is the appropriate vocational student organization identified as a teaching tool for teachers to use in assisting students to achieve identified course competencies. Competency-based activities are an integral part of the instructional program.

All Technology Education courses are taught in a one-period block of time (45-55 minutes), with each of the four Technology systems (communication, construction, manufacturing, and transportation, energy and power) being designed to provide a means through which other courses such as math, science, English, and social studies can be applied in a practical manner within a technology-based situation. Teaching across the curriculum is vital to the success of a Technology Education program.

TECHNOLOGY EDUCATION OVERVIEW

About the TLAs

The *Technology Education* series consists of 40 Technology Learning Activities (TLAs) for instruction and a supplemental activities book. Each TLA is divided into two parts: an instructor's guide and a student guide. The instructor's guide provides an overview of Technology Education, a summary of activities and supplies needed for students to complete the Technology Learning Activity, a supplies and materials worksheet for the instructor, an overview of the particular TLA, written exam answer sheets, and evaluation summary for the TLA.

Master copies of the evaluation summary sheets, pretest and posttest, and supplies and materials worksheets are provided with this instructors edition of the TLA. These sheets may be reproduced for classroom use.

All of the TLAs focus on measurable and observable learning outcomes. Instructors are encouraged to supplement, personalize, localize, and motivate with these materials in order to develop a complete teaching/learning process.

TLAs are designed for use in more than one class period of instruction. Careful study of each TLA by the instructor will help her or him determine the following:

- ≫ Skills to demonstrate
- ≫ Supplies and equipment needed

TECHNOLOGY EDUCATION OVERVIEW

- Amount of time needed for student practice
- Workstation Bookshelf, Instructors Reference Materials, and a bibliography are provided for supplemental resources
- Supplementary materials, including print and non-print media to order
- Resource people to contact
- Facility modifications which may be necessary to administer the TLA

Each TLA is based on performance objectives. Performance objectives are specific, stating the performances necessary to meet the goal of the TLA.

The overall goal of the unit tells what the student should be able to do and what standard will be used to determine whether the student has achieved competency. The specific objectives outline the sequence of the competencies required to meet the TLA goal. The competencies may be either cognitive, requiring knowledge only, or psychomotor, requiring knowledge and skill.

TECHNOLOGY EDUCATION OVERVIEW

About Ordering TLAs

Additional TLAs in the *Technology Education* series may be ordered through the Oklahoma State Department of Vocational and Technical Education, Curriculum and Instructional Materials Center, 1500 West Seventh Avenue, Stillwater, OK 74074-4364. Phone 1-800-522-5810.

NOTE: The 1100- and 1200-series numbers given on the next page are for ordering TLA Instructor's Editions; to order Student Editions, change the first two numbers to 31 (for 8-Day TLAs) or 32 (for 6-Week TLAs).

Disclaimer

The materials and information contained in this publication have been gathered from sources believed to be reliable and to represent current opinion on the subject. No warranty or guarantee is made by the Oklahoma Department of Vocational and Technical Education or other contributors as to the absolute correctness or sufficiency of any material contained in this manual. The Oklahoma Department of Vocational and Technical Education and contributors assume no responsibility in connection herewith; and it cannot be assumed that all safety measures are contained in this manual, or that additional measures may not be required under particular or exceptional circumstances.

TECHNOLOGY EDUCATION OVERVIEW

TLA Title	Order No.
8-DAY TLAs	
Aerospace and Flight	TE1117
Agricultural Education	TE1123
Audiovisual Programming	TE1131
CAD — Autocad Release 10	TE1114
Career Search	TE1104
Drafting	TE1134
Electricity — Principles and Applications	TE1105
Electronic Publishing	TE1135
Electronics (CES)	TE1106
Fluidics Technology	TE1116
Health Occupations	TE1124
Home Economics	TE1125
Introduction to VoTech	TE1122
Introduction to Animation	TE1132
Keyboarding and Computer Application	TE1115
Laser/Fiber Optics/Holography	TE1129
Lasers Technology	TE1103
Marketing Education	TE1126
Material Processes — Plastics	TE1133
NASA Aerospace-Spacelink	TE1111
Photography	TE1130
Problem Solving	TE1110
Research and Design	TE1101
Residential Construction	TE1121
Robotics — Control Technology	TE1112
Robotics — ProArm	TE1113
Safety Design Briefs	TE1107
Structural Engineering	TE1102
Synergetic Technology	TE1120
Technical Report Writing	TE1118
Technology Challenge	TE1109
Thermal Screen Printing	TE1119
Trade and Industrial Education	TE1127
TSA Leadership	TE1108
Vocational Business	TE1128
6-WEEK TLAs	
Animator	TE1203
CAD/Board Drafting	TE1201
Control Technology	TE1202
Electronics/Electricity/Robotics	TE1204
Electronic Publisher	TE1205

BEST COPY AVAILABLE

TECHNOLOGY EDUCATION OVERVIEW

Corrections and Suggestions

CIMC wants to provide Technology Education instructors and students materials that are accurate and effective. Although the CIMC strives to maintain the highest standards of development and production, oversights occasionally do occur. If you find any errors in this or other CIMC publications or have suggestions for improving their usefulness, please notify the CIMC staff. One easy way of pointing out errors is to make a photocopy of the affected page and indicate the correction on the copy. Mail this information to the CIMC, where it will be used to correct the publication before the materials are reprinted.

To ensure that the material is updated on a timely basis, notify the CIMC of necessary corrections as soon as possible. Do not assume that someone else will notice the error and inform the CIMC; other users may be making the same assumption. Please send corrections and recommendations for improving this publication to the following address:

Curriculum Development Coordinator
Curriculum and Instructional Materials Center
Oklahoma Department of Vocational and
Technical Education
1500 West Seventh Avenue
Stillwater, Oklahoma 74074-4364

USING THIS PUBLICATION

INSTRUCTOR'S SECTION

Background Information

The background information component provides instructors with basic information about the subject of the TLA. Instructors are encouraged to use suggested resources for additional information on the specific technology used in each TLA.

Expected Learner Outcomes

There are 19 Expected Learner Outcomes for the *Technology Education* series. Not every TLA fulfills all 19 Expected Learner Outcomes, so outcomes specific to each TLA are listed in the Instructor's Section and in the Student's Section. The 19 Expected Learner Outcomes for the *Technology Education* series are:

- The student will know and appreciate the importance of technology and technological literacy.
- The student will explore career opportunities so they can make meaningful occupational choices.
- The student will explore future educational opportunities so they can make meaningful educational choices.
- The student will apply problem solving and critical thinking techniques.
- The student will apply math, science, reading, and other school subjects in a practical situation.
- The student will develop keyboarding and computer literacy skills.

USING THIS PUBLICATION

INSTRUCTOR'S SECTION

- The student will develop basic skills in the safe and proper use of tools, machines, materials, processes, and technical concepts.
- The student will recognize and develop individual talents.
- The student will think logically and sequentially.
- The student will develop leadership, creative abilities, positive self-concepts, and individual potential in a technological society.
- The student will become a more sophisticated consumer of the goods and services of a technological society.
- The student will adjust to a changing technological environment.
- The student will develop an understanding and the ability to adapt to those technological forces that influence life in the 21st Century.
- The student will develop an understanding of economic development.
- The student will communicate by making clear and relevant points through the development of mental process skills.

USING THIS PUBLICATION

INSTRUCTOR'S SECTION

- The student will apply design, imagination, and creative abilities.
- The student will learn applications of lifelong learning skills.
- The student will think globally and act locally.
- The student will explore the organization and management systems of business and industry.

Suggested Activities

The suggested activities component is to assist during the preparation stage of the teaching/learning process. The activities provide suggestions for preparation and evaluation during the instructional process. The instructor should read the suggested activities before assigning the TLAs to allow time to obtain supplemental materials, prepare audiovisual materials, and contact outside resource persons. Duties of the instructor will vary according to the particular TLA.

USING THIS PUBLICATION

INSTRUCTOR'S SECTION

Suggested Resources

Suggested resources include people and print and non-print media that may be used with the TLA. References used during the development of each TLA are also provided. The instructor can use suggested resources and TLA references to supplement her or his knowledge of the subject to help students with particular interests or objectives in the area covered. Please note that suggested resources and references listed in this publication existed when this publication was written. CIMC assumes no responsibility for providing these materials and cannot ensure the availability of these materials as individual vendors, manufacturers, and publishers may discontinue these products at any time.

Instructional Sequence

This component provides instructors with daily lesson plans for the TLA. Included in the instructional sequence component are suggested daily assignments and equipment, tools, and supplies that will be needed for each student. A column for facility requirements or modifications is provided for each instructor. This component is provided as a guide to plan for and monitor students' progress through the TLA.

Equipment, Tools, and Supplies: Summary Worksheet

This component is provided as a planning tool for instructors. It provides instructors with a list of the necessary equipment, tools and supplies to support student activities and provides specific information for budgeting purposes.

USING THIS PUBLICATION

INSTRUCTOR'S SECTION

Pretest and Posttest	These components provide criterion-referenced evaluation of the objectives listed in each TLA. If objectives or activities have been added, deleted, or modified, appropriate changes should be made on the tests.
Test Answers	This component is provided to assist instructors in evaluating student performance on written tests.
Evaluation Summary	This component is provided to assist instructors in summarizing the performance of each student on an individual basis. The evaluation summary forms are also provided as photocopy masters for the instructors use.

USING THIS PUBLICATION

STUDENT'S SECTION

Introduction

Daily activities are the step-by-step procedures students will follow to complete the learning experience. Each TLA is organized by daily tasks and activities. Students are able to pace their progress through the TLA by referring to the activities for the day.

Within the daily activity pages are components common to all TLAs.

Summary of Activities

A Summary of Activities page begins each day of the TLA. This page provides several important pieces of information for both the student and instructor.

❶ In the left column this page provides the student with a list of activities to be accomplished that day.

❷ In the right column the major Academic and Workplace Application which applies to that day's activities is graphically indicated with a standard icon.

❸ Below the icon is a list of specific skills reinforced during that day's activities.

USING THIS PUBLICATION	STUDENT'S SECTION
Pretest Instructions	The students are required to take a Pretest as one of the first day's activities. The instructions for the Pretest are given in this section.
Assignments to Turn In	Day One includes a list of all assignments the students are expected to turn in during or at completion of the TLA. This list includes all tests, activities, and products covered in the TLA.
Goal	On Day One, following the assignments checklist, is a concise statement of the overall goal of the TLA. This statement summarizes the purpose for completing the TLA and encourages the student to think about the broader implications of the learning experience.
Words You Should Know	The first day's activities includes a glossary of unfamiliar technical terms used in the TLA. Often these terms are necessary for the student in order to accurately follow instructions in the activity procedures. The students should be encouraged to review this glossary and refer to it often during the course of the TLA.

USING THIS PUBLICATION	STUDENT'S SECTION
Expected Learner Outcomes Reinforced by this TLA	As stated in the guide to the Instructors Section, there are 19 identified Expected Learner Outcomes associated with the *Technology Education* series. This section of Day One activities lists the Expected Learner Outcomes that specifically apply to the TLA. A student who reviews this list will gain a better understanding of the scope of experiences and skills to be gained from the TLA.
Objectives	Each TLA is made up of a set of measurable objectives. In this section on Day One, students are given a list of all the objectives addressed in the TLA. This list can serve to introduce students to the "flow" of the TLA as they build introductory skills in a technology.
Related TSA Competitive Event(s)	Each TLA may be used by students to begin work toward completion of a Technology Student Association competitive event. Some TLAs are tied to a specific TSA event; other TLAs may be used with several events. This Day One section gives the student and instructor a list of appropriate TSA events which the TLA may support. TSA competitive events promote leadership development, and an understanding that winning isn't everything but involvement is. Events are staged at Local, Regional, State, and National levels through which the student may progress.

USING THIS PUBLICATION

STUDENT'S SECTION

Academic and Workplace Applications

The curricular content and activities found in this Technology Learning Activity help students apply academic and workplace competencies. These competencies include: Reading Skills, Writing Skills, Mathematics Skills, Science Skills, Oral Communications Skills, Interpersonal or Relating Skills, Creative Thinking and Problem Solving Skills, Employability Skills, and Social Studies Skills.

Preparing students to enter successfully into today's world ...

Preparing students to enter successfully into today's world of work offers vocational education a substantial challenge. The contemporary workplace is characterized by constant and rapid technological change and by increasing job complexity and skill intensity. Due to rapid technological advancement, the half-life of work skills is now reduced to a bare three to five years. Out of this new workplace environment has arisen a growing national awareness of the critical importance of an American workforce armed with the skills necessary to survive in a competitive economy.

... emergence of a renewed emphasis on basic academic skills ...

One result of this national awareness has been the emergence of a renewed emphasis on basic academic skills in all areas of education. Pressure to increase academic skill development is being placed on education by both legislative action and industry mandate. The Carl D. Perkins Vocational and Applied Technology Education Act of 1990 sets stringent academic and workplace skill requirements for vocational education. State legislatures are increasingly requiring basic skills accountability by teachers and school administrators.

USING THIS PUBLICATION

STUDENT'S SECTION

... expected learner outcomes are being implemented with increasing frequency.

Graduation exams, minimum competency requirements, and expected learner outcomes are being implemented with increasing frequency. In addition, business and industry are delivering the message clearly to educators that vocational competence now requires increased strength in academic and workplace skills.

The issue of basic skills ... was successfully addressed in a national three-year study ...

The issue of the basic skills currently required in the work place was very successfully addressed in a national three-year study conducted jointly by the American Society of Training and Development (ASTD) and the U.S. Department of Labor (DOL). The findings of this study were published in 1990 in the book, *Workplace Basics: The Essential Skills Employers Want.*

... research indicates clearly that American employers ... need a variety of skills ...

The ASTD/DOL research indicates clearly that American employers have discovered that their workforces need a variety of skills that include, but are not limited to, the classic academic trio of reading, writing, and computation. Employers now are also looking for competence in areas such as "learning to learn," problem solving and critical thinking, interpersonal and teamwork skills, oral communication and listening techniques, and the social and personal management skills that demonstrate a capacity for independence and responsibility in on-the-job performance.

USING THIS PUBLICATION

STUDENT'S SECTION

... business and industry have expanded and re-defined "workplace basics."

It is clear that the requirements of today's business and industry have expanded and re-defined "workplace basics." It is in line with this re-definition, and with the competency requirements of current education legislation, that the Oklahoma Department of Vocational and Technical Education has chosen to address "basic skills" in the instructional materials produced by its Curriculum and Instructional Materials Center.

CIMC materials contain information and activities which develop academic and workplace application competencies ...

It is not a new development for CIMC materials to contain information and activities which develop academic and workplace application competencies in students undertaking vocational programs. What is new is the specific marking, or flagging, of items in our instructional materials that address academic and workplace application skills.

To assist teachers and students in identifying activities which promote academic and workplace skills ...

To assist teachers and students in identifying activities which promote academic and workplace skills development, CIMC has implemented a marking system which uses simple graphic symbols, or icons. These icons are located in the right margins of Activity Sheets. The following is an explanation of the icons and the kinds of academic and workplace application activities they indicate.

USING THIS PUBLICATION

READING SKILLS: Skills involving use of print resource material for obtaining and applying information.

WRITING SKILLS: Skills involving written communication of processes, information, or ideas.

MATHEMATICS SKILLS: Skills involving computation, calculation, and interpretation of numerical data.

STUDENT'S SECTION

Current vocational education literature indicates that functional literacy as a workplace basic needs to be defined in terms of reading competencies actually required for job performance. The activities identified with this icon as addressing reading skills in CIMC materials deal specifically with developing reading skills in an applied, job-related context. These range from general information-gathering activities to tasks requiring use of specific technical reference materials. Many contain a "learning to learn" aspect, which promotes engaging actively and purposefully in vocationally relevant enquiry.

Tasks identified with this icon promote development of skills in written communications. As with reading skills, the writing skills emphasized in CIMC materials have a vocational context. They include filling out forms, keeping work activity records, writing simple memos and letters, generating more complex reports and articles, and written expression of ideas and concepts related to vocational performance or exploration.

This icon identifies activities which develop vocationally-related skills in computation, measurement and estimation, selection and application of appropriate mathematical processes, and collecting, displaying, or interpreting data.

USING THIS PUBLICATION	STUDENT'S SECTION
SCIENCE SKILLS: Skills involving mastery and application of scientific information or theory.	This icon marks activities which are related to the development of skills in either the physical or biological sciences. These skills stress occupationally-related applications of science and technology.
ORAL COMMUNICATION SKILLS: Skills involving speaking and listening.	Activities marked with this icon promote development of effective speaking and listening. They include practice in such areas as speaking techniques, word choice, non-verbal messages, use of communication media, and using active listening techniques. Many of these activities promote "learning to learn" skills in verbal enquiry.
INTER-PERSONAL OR RELATING SKILLS: Skills involving working and getting along with others.	Activities which deal directly with skills in relating to others are marked with this icon. This includes areas such as multi-cultural awareness, group processes and dynamics, negotiation, dealing with conflict, cooperation and teamwork, values and attitudes, and leadership and motivation.

USING THIS PUBLICATION	STUDENT'S SECTION
CREATIVE THINKING AND PROBLEM SOLVING SKILLS: Skills involving comprehending, applying, analyzing, and developing complex ideas and situations.	This icon identifies activities which stress development of higher-order thought processes such as problem identification and analysis, lateral thinking, evaluating alternatives, developing solutions, examining assumptions, and evaluating outcomes.
EMPLOYABILITY SKILLS: Skills involving choosing, obtaining, and succeeding in a career.	Activities marked with this icon relate to competencies required to obtain employment and develop a career. These competencies include specific occupational tasks. They also include items such as career analysis and selection, job searching, completing applications and resumes, interviewing, and business etiquette and personal management skills required for job-keeping and maturing in one's work. Examples of the latter category include personal presentation, self-discipline, work accuracy, reliability, discretion, punctuality, stress handling, judgement, confidence, etc.
SOCIAL STUDIES SKILLS: Skills involving investigation and application of social concepts.	This icon marks activities which stress competencies in fields relating to human society and its distribution and relationships. This includes areas such as history, geography, government and politics, economics, psychology, sociology, demographics, current events, cross-cultural studies, consumer issues, environmental issues, and ethical concerns in science and technology.

USING THIS PUBLICATION

Impact Statements

STUDENT'S SECTION

There are five areas of human culture for which each TLA has an impact. These impact statements appear during Day Eight, after the student has gained some familiarity with the technology.

❶ *ENVIRONMENTAL IMPACT:* A statement introducing the student to the impact of the technology on the environment.

❷ *SOCIAL/CULTURAL IMPACT:* A statement concerning the impact of the technology on society and culture.

❸ *ECONOMIC IMPACT:* A statement concerning the impact of the technology on the economy.

❹ *POLITICAL IMPACT:* A statement concerning the impact of the technology on politics, laws, and regulations, and the impact of politics on the development of the technology.

❺ *ERGONOMIC IMPACT:* A statement concerning the ergonomic implications of the technology. Ergonomics is the study of developing products and systems that meet peoples' needs.

USING THIS PUBLICATION

STUDENT'S SECTION

Impact Statements offer the student the opportunity to see beyond the activities in the Technology Learning Lab and glimpse the real-world applications of the technology.

Career Search

Also on Day Eight, the students are given the assignment of investigating several career opportunities related to the technology of the TLA. The investigation is done with *Career Search Abstracts*. A list of up to five careers related to the TLA is given, followed by pages from *Career Search Abstracts* that detail the career qualifications and work environment. The student is required to choose two of the five related careers, tead the appropriate abstracts, then write a short essay about why those careers may be appealing.

Posttest Instructions

The students are required to take a Posttest as one of the last day's activities. The instructions for the Posttest are given in this section. The score for the Posttest may be compared to the score for the Pretest to help determine the student's gain during the TLA.

USING THIS PUBLICATION

Skunk Works

STUDENT'S SECTION

Skunk Works, a Day Eight optional activity, include instructions that could be used for solving problems or reinforcing the enrichment of learning.

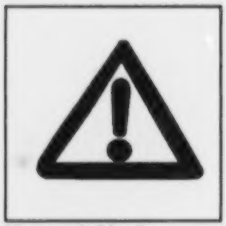
The term Skunk Works was coined by engineers at 3M Corporation in the mid-1960s. Some engineers wanted to develop a new product, but company management would not give them the time or money to work on the project. So the engineers "borrowed" time and money from approved projects to work on their "Skunk Works." When they finished developing the product, they presented it to management and it has been a 3M product ever since. The product: Velcro fasteners.

HAZARD ALERT MESSAGES

The Daily Activities include hazard alert information specific to the Activity. These messages should be discussed carefully and thoroughly. The Hazard Alert Message system used in the TLA is based on the American National Standards Institute (ANSI) Standard Z535, which provides for five levels of alert.

Students are introduced to the ANSI Hazard Alert Message system as an activity in the Laboratory Safety Design Brief (TE1107/ TE3107). This system was adopted by ANSI as the standard in 1990 and will be the hazard alert system in use when students reach the workplace.

Hazard Alert Messages in the TLA are indicated both by the color red and graphically. There are three types of hazard alert graphics used in the TLA: the hazard alert symbol, injury hazard graphics, and avoidance graphics.



Hazard Alert Symbol

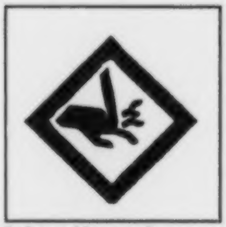
This Hazard Alert Symbol is used with the words DANGER, WARNING, and CAUTION. ANSI defines these words as:

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

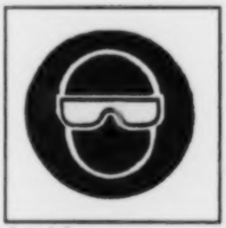
CAUTION indicates a hazardous situation which, if not avoided, may result in minor or moderate injury.

HAZARD ALERT MESSAGES



Injury Hazard Graphic

There are two types of graphics used in conjunction with the hazard alert symbol. This type of graphic depicts a specific injury that may be expected if the hazard described in the alert is not avoided.



Avoidance Graphic

This second type of graphic is called an avoidance graphic. It depicts an action the student should take in order to avoid injury.

There are two other ANSI words used in the TLAs and the students should understand their meanings:

NOTICE indicates an action that could result in damage to property or equipment.

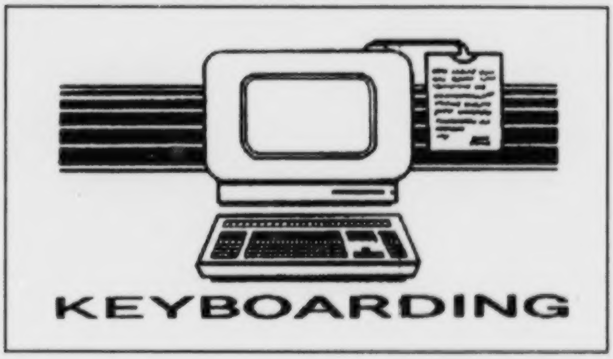
IMPORTANT indicates an instruction that can help the student do a better job.

TECHNOLOGY EDUCATION

KEYBOARDING AND COMPUTER APPLICATIONS

TE1115/TE3115

INSTRUCTOR'S SECTION



KEYBOARDING

BACKGROUND INFORMATION

To work in many professions, students should learn how to type so they can use a typewriter or enter data into a computer. Typing information and data into a computer is known as *data entry*. This process of entering data is also known as *keyboarding*, because you use a keyboard to type in the data. Successful typists and computer operators must know how to enter data accurately and quickly.

When learning to type or keyboard, students should sit straight up, lean slightly forward, keep both feet on the floor, and place the material they are typing to the right of the keyboard.

Learning the correct fingering is important for using all the fingers of both hands. Students will begin by learning the home keys. These keys will be the starting point for their fingers whenever they begin typing. By continually striking specific keys with the same fingers, they will develop the habit of finding the correct keys by touch. They should strike the keys with a quick, sharp stroke.

The main goal in learning to type is to achieve a level of speed and accuracy. Fast isn't good unless you are also correct. Students should set goals above what they can do already and work up to them. As they practice, students should pay special attention to the backspace, return, shift, and tab keys to improve their speed and accuracy. Also important are keeping their eyes on the copy (or screen) and

INFORMATION SHEET

BACKGROUND INFORMATION

INSTRUCTOR'S SECTION

typing with rhythm — striking the keys at an even rate.

Before computers and word-processing programs became affordable and popular, most businesses used typewriters. Typewriters are machines that produce impressions of letters on paper. The first typewriter was invented in 1714, the first U.S. patent was issued in 1829, and the first electric typewriter was made in 1908.

Before typewriters were available, documents (including business letters) were written by hand. Publications such as newspapers and books had to be typeset by hand to print large quantities. Typesetting, which was first used by Johannes Gutenberg in 1440, involves assembling type (individual metal letters) into words, lines, and pages. The assembled type was spread with ink and used as a stamp to print pages.

Typesetting is still used for many publications. For example, many textbooks are typeset. Thousands of copies can be printed and each one will be exactly alike. The typesetting process is becoming faster and easier with the use of technology such as computers and machines that produce entire lines of type.

Being able to keyboard allows you to type data into a computer and enter system commands telling it how to perform certain functions. You must be able to keyboard to operate software programs. These are individual programs, such as *Typing Tutor 5+*, that are stored on diskettes or in a computer's hard drive.

BACKGROUND INFORMATION

You buy software to perform specific functions on a computer such as calculating, word processing, and creating graphics. You may have used software to play computer games.

Computers can be used to calculate, sort, file, edit, and perform other kinds of information processing. They can process this information quickly, accurately, and reliably. Computer use has increased dramatically in the last forty years. There were fewer than 15 computers in use in the 1950s. More than 20% of households had computers in 1991. The number of computers in use is growing about 20% each year.

The special jobs that computers perform are countless. Many are mentioned in the Impact Statements. Computers are used in industries such as aviation, medicine, agriculture, finance, marketing, and weather forecasting. They also help people conduct and understand research in many fields. To use a computer efficiently, you need good keyboarding skills.

Since the invention of typewriters, people have experimented with ways to make typing faster, more accurate, and easier to correct. With the computer technology easily available today, there is a growing market for word processing programs.

Word processing is an operation which takes written, verbal, or recorded information and turns it into typewritten or printed form. To convert this information, you must keyboard it into the computer's memory. The keyboard allows you to

INSTRUCTOR'S SECTION

BACKGROUND INFORMATION

INSTRUCTOR'S SECTION

enter the information and to operate the computer. The display or computer screen allows you to check and correct the information as you enter it. The keyboard is also used to control the cursor on the screen. This cursor is a position indicator and tells you where you are on the screen (or in your text). Move the cursor up, down, left, or right by pressing the arrow keys.

Word processing programs make creating many types of documents faster and easier. Using a computer with a word processing program allows you to make changes to part of the document without re-doing the entire thing. This saves time and money, and makes the job easier and more enjoyable.

Using a word processing program allows you to compose, edit, format, and print these documents much more easily and quickly than on a typewriter. Some programs can operate at 350 words per minute. Using a word processing program on a computer also means that you can store your data and retrieve it for later use. Other functions of many word processing programs include checking spelling, counting words, and changing margins.

Statistics show that more than two billion business letters and memorandums were written and sent in 1990. This amount of correspondence shows how important writing can be on the job. Being able to keyboard with speed and accuracy will help students succeed in the workplace.

Most businesses use computers with word processing programs. Such programs

BACKGROUND INFORMATION

INSTRUCTOR'S SECTION

allow companies to keep letter formats on file, so they can quickly be personalized or updated to send as needed. When you write letters, knowing how to type and use a word processor will make this task easier and more fun.

Students have typed from examples shown on a computer screen and printed in a book. This does not happen very often in real life. In the future, they will usually type from originals that have been written by hand or dictated (using a tape recorder or dictating machine).

When typing speed is calculated, it is called "words per minute." In typing, a "word" does not mean an actual word. A typing "word" used to measure speed consists of five letters and/or spaces. For example, "*Technology Education*" would be counted as four words, because it has a total of 20 letters and spaces. If actual words were counted, your typing speed would be slower when you typed long words, and faster when you typed short words. Students will see an example of this in this TLA. When they type a hand-written letter, they will count the number of actual words typed. This may be higher or lower than their usual words per minute score, depending on the length of the words in the letter.

Keyboarding is an important skill, but it takes time to learn. Students should allow themselves time to develop at their own pace. If they do not use their keyboarding skill regularly, they will lose it. To retain speed and accuracy, they must continue to practice after completing this TLA.

BACKGROUND INFORMATION

- The student will adjust to a changing technological environment.
- The student will develop an understanding and the ability to adapt to those technological forces that influence life in the 21st Century.
- The student will communicate by making clear and relevant points through the development of mental process skills.
- The student will learn applications of lifelong learning skills.
- The student will know and appreciate the importance of technology and technological literacy.
- The student will explore career opportunities to make meaningful occupational choices.
- The student will develop keyboarding and computer literacy skills.

INSTRUCTOR'S SECTION

EXPECTED LEARNER OUTCOMES

EXPECTED LEARNER OUTCOMES

machines, materials, processes, and technical concepts.

- The student will recognize and develop individual talents.
- The student will think logically and sequentially.

INSTRUCTOR'S SECTION

SUGGESTED ACTIVITIES

- ✓ Obtain materials to supplement the TLA.

  Note: See Suggested Resources for books to supplement this module.

- ✓ Review instructional outline for this TLA. Modify time frames to suit class needs and plan activities for each class period.

- ✓ Study the specific objectives to determine those you will cover in your presentation. Decide also which objectives should be taught to which students.

- ✓ Determine the scope and sequence of objectives that you add to the TLA. Design and develop support materials, including evaluation techniques, for additional objectives.

- ✓ Determine how you will schedule time for students to demonstrate competence in the required procedures.

- ✓ Make arrangements for guest speakers. Supply speakers with specific objectives and other appropriate sections of this TLA.

INSTRUCTOR'S SECTION

PREPARATION

SUGGESTED ACTIVITIES

✓ Make arrangements to tour a local office to view their data processing; and find keyboarding concepts book showing different applications for data entry.

NOTE THE FOLLOWING INSTRUCTIONAL CHOICES:

1. This TLA is written for *Typing Tutor 5+* to be installed on a hard drive.

   You may instead have students operate this program from a diskette; however, you will have to show students how to get started using the *Typing Tutor 5+* program.

2. This TLA is written for students to save their daily progress reports for practicing with *Typing Tutor 5+* at the end of each day. You may have students save each *Typing Tutor 5+* session to a diskette or the hard-drive. If your students save their sessions to the hard drive, you may save disc space by deleting the student records when they have completed the TLA. See the *Typing Tutor 5+ User's Manual* for directions on how to run the program in the Instructor Mode.

INSTRUCTOR'S SECTION

SUGGESTED RESOURCES

INSTRUCTOR'S SECTION

COMPUTER SOFTWARE

Kriya Systems. *Typing Tutor 5+*, Que Software: Carmel, IN, 1992.

NOTE: This software allows students to practice their typing skills at their own pace. The program includes practice lessons, tests, sample texts to type, the keyboarding game Letter Invaders, and the mouse game Mouse Invaders.

The Software Toolworks for IBM. *Mavis Beacon Teaches Typing!*, $39.99.

NOTE: This software features graphic support and a ten-key teaching mode. It is available from Babbage's software outlets in Tulsa, OK and Oklahoma City, OK.

WORKSTATION BOOKSHELF

Kriya Systems, Inc. *Typing Tutor 5+ Manual*, Que Software, A Division of Prentice Hall Computer Publishing: Carmel, IN, 1992.

Word Processing Manual for your school's word processing program.

SUGGESTED RESOURCES

Computer Concepts and Software Applications (Student Activities Packet and a Teacher's Guide), Illinois State Board of Education: Springfield, IL, 1987.

Donnelly, Frank P. *Learn to Type on your Computer*, Dictation Disc Co.: New York, NY, 1983.

Keyboarding, Typewriting, and Formatting (Student Activities Packet and a Teacher's Guide), Illinois State Board of Education: Springfield, IL, 1987.

LaBarre, James E. *Keyboarding Skills: A Mastery Approach for Microcomputers and Typewriters*, Paradigm Pub.: Eden Prairie, MN, 1990.

Mitchell, William Martin. *Keyboarding and Applications: A Mastery Approach for Microcomputers and Typewriters*, Paradigm Pub.: Eden Prairie, MN, 1990.

INSTRUCTOR'S REFERENCE MATERIALS

Technology Education: Keyboarding and Computer Applications

Instructional Sequence	Assignments	Equipment, Tools, and Supplies	Facilities Requirements/ Modifications
Day 1	Take Pretest. Read and study the Assignment Checklist, Words You Should Know, Expected Learner Outcomes, Objectives, TSA Competitive Events, and Academic and Workplace Skills.	Computer scorecard/sheet for Pretest.	
Day 2	Complete Objective 1: Demonstrate correct keyboarding posture. Complete Objective 2: Identify and locate the Home Keys and use correct fingering.	Computer with *Typing Tutor 5+* on hard drive. Keyboard, printer with paper, and surge protector.	

BEST COPY AVAILABLE

Instructional Sequence	Technology Education: Keyboarding and Computer Applications		
	Assignments	Equipment, Tools, and Supplies	Facilities Requirements/ Modifications
Day 2 (cont'd)	Complete Objective 3: Use the computer and *Typing Tutor 5+* to take six typing lessons and tests and print a report.		
Day 3	Complete Objective 4: Use the computer and *Typing Tutor 5+* to learn new keys and/or practice your keyboarding skills.		
	Complete Objective 5: Use *Typing Tutor 5+* to access and play the keyboarding game *Letter Invaders*.		

BEST COPY AVAILABLE

Technology Education: Keyboarding and Computer Applications

Instructional Sequence	Assignments	Equipment, Tools, and Supplies	Facilities Requirements/ Modifications
Day 4	Complete Objective 6: Use the computer and *Typing Tutor 5+* program to learn new keys and/or practice your keyboarding skills.	Computer with *Typing Tutor IV+* on hard drive. Keyboard, printer with paper, and surge protector.	
	Complete Objective 7: Use *Typing Tutor 5+* to access and play *Mouse Invaders*.		
Day 5	Complete Objective 8: Use the computer and a word processing program to take a typing test.	Computer with word processing program on hard drive or diskette. Keyboard, printer with paper, and surge protector. Timer	

BEST COPY AVAILABLE

Instructional Sequence	Technology Education: Keyboarding and Computer Applications		
	Assignments	**Equipment, Tools, and Supplies**	**Facilities Requirements/ Modifications**
Day 6	Complete Objective 9: Use the computer and *Typing Tutor 5+* to concentrate on areas where you need extra practice.	Computer with *Typing Tutor 5+* on hard drive. Keyboard, printer with paper, and surge protector.	
	Complete Objective 10: Write a letter at least 100-150 words long.	Pen or pencil with eraser. Two to four sheets of notebook paper.	

BEST COPY AVAILABLE

Technology Education: Keyboarding and Computer Applications

Instructional Sequence	Assignments	Equipment, Tools, and Supplies	Facilities Requirements/ Modifications
Day 7	Complete Objective 11: Use the computer and a word processing program to type your hand-written letter and test your typing speed.	Computer, word processing program diskette, keyboard, printer with paper, and surge protector. Timer	

Technology Education: Keyboarding and Computer Applications

Instructional Sequence	Assignments	Equipment, Tools, and Supplies	Facilities Requirements/ Modifications
Day 8	Complete any incomplete assignments.	Computer score card/sheet for Posttest and Spelling Test.	
	Read and study Impact Statements.	Two sheets of paper and pen or pencil with eraser for Career Search Activity.	
	Complete Career Search Activity.		
	Take Posttest and Spelling Test.		
	Hand in all assignments.		

Equipment, Tools, and Supplies: Summary Worksheet

Equipment, Tools, and Supplies	Per Student	Per Period	Total Needed	Special Considerations	Cost per Student	Cost per Period	Total Cost	Special Considerations
Printer	1	1						
Printer Paper	5	(for 24)						
Pencil with eraser	1	(for 24)						
Notebook paper (8 1/2 X 11)	4	(for 24)						
Computer with keyboard and *Typing Tutor 5+* loaded on hard drive	1	1						
Word processing program diskettes	1 set	1 set						
Computer score card/sheet	1	(for 24)						
Timer	1	1						
Surge protector			1	per computer				
Data diskettes	1	1		correct size; provided by the student				

PRETEST

1. When keyboarding, your right thumb should be poised above:

   a. letter N
   b. the space bar
   c. letter F
   d. the SHIFT key

2. The disk drive in a computer:

   a. saves data to and reads data from a diskette
   b. reminds the computer when to start running programs
   c. acts as a sensor for who is using the computer
   d. allows the computer to play music

3. Which of the following keys is NOT one of the Home Keys:

   a. key S
   b. key J
   c. key ;
   d. key M

INSTRUCTOR'S SECTION

Part 1

PRETEST

4. In the *Typing Tutor 5+* program, you can keep track of your daily achievements by looking at:

   a. the lessons tally
   b. the final screen
   c. the progress report
   d. the diskette

5. When the Caps Lock key is pushed down, all the letters will be typed:

   a. in lower case
   b. in upper case
   c. in red ink
   d. with the first letter of each word capitalized

6. In your word processing program, the term *word wrap* means:

   a. the words will have no spaces between them on the screen
   b. the computer automatically sets tabs
   c. when you come to the end of a line, the cursor automatically moves down to the next line
   d. the keyboard cannot type numbers

7. Which of the following is not listed on the Program Menu for *Typing Tutor 5+*:

   a. File
   b. Games
   c. Lessons
   d. Start

INSTRUCTOR'S SECTION

Part 2

PRETEST

8. You can move your cursor around on screen by pressing:

   a. the arrow keys
   b. the function keys
   c. the tab keys
   d. the insert key

9. Keyboarding will not help you accomplish which of the following:

   a. entering data into a computer
   b. turning a computer off
   c. viewing and correcting items on the screen
   d. writing documents

10. When keyboarding, you should NOT do which of the following:

   a. curve your fingers
   b. sit up straight
   c. type rhythmically
   d. look at your fingers

INSTRUCTOR'S SECTION

Part 3

POSTTEST

11. When keyboarding, your right thumb should be poised above:

    a. letter N
    b. the space bar
    c. letter F
    d. the SHIFT key

12. The disk drive in a computer:

    a. saves data to and reads data from a diskette
    b. reminds the computer when to start running programs
    c. acts as a sensor for who is using the computer
    d. allows the computer to play music

13. Which of the following keys is NOT one of the Home Keys:

    a. key S
    b. key J
    c. key ;
    d. key M

INSTRUCTOR'S SECTION

Part 1

POSTTEST

14. In the *Typing Tutor 5+* program, you can keep track of your daily achievements by looking at:

    a. the lessons tally
    b. the final screen
    c. the progress report
    d. the diskette

15. When the Caps Lock key is pushed down, all the letters will be typed:

    a. in lower case
    b. in upper case
    c. in red ink
    d. with the first letter of each word capitalized

16. In your word processing program, the term *word wrap* means:

    a. the words will have no spaces between them on the screen
    b. the computer automatically sets tabs
    c. when you come to the end of a line, the cursor automatically moves down to the next line
    d. the keyboard cannot type numbers

17. Which of the following is not listed on the Program Menu for *Typing Tutor 5+*:

    a. File
    b. Games
    c. Lessons
    d. Start

INSTRUCTOR'S SECTION

Part 2

POSTTEST

INSTRUCTOR'S SECTION

Part 3

18. You can move your cursor around on screen by pressing:

    a. the arrow keys
    b. the function keys
    c. the tab keys
    d. the insert key

19. Keyboarding will not help you accomplish which of the following:

    a. entering data into a computer
    b. turning a computer off
    c. viewing and correcting items on the screen
    d. writing documents

20. When keyboarding, you should NOT do which of the following:

    a. curve your fingers
    b. sit up straight
    c. type rhythmically
    d. look at your fingers

POSTTEST

The following words about keyboarding and computer applications may or may not be misspelled. On your computer scan sheet or card, mark a) if the word is spelled correctly, and mark b) if the word is spelled incorrectly.

21. rhythmicaly
22. word wrap
23. letter invaiders
24. relax
25. word proccessing
26. margens
27. fingering
28. disck drive
29. cursor
30. keyboarding

INSTRUCTOR'S SECTION

SPELLING TEST

DIRECTIONS

TEST ANSWERS

1. B
2. A
3. D
4. C
5. B

6. C
7. D
8. A
9. B
10. D

11. B
12. A
13. D
14. C
15. B

16. C
17. D
18. A
19. B
20. D

21. B
22. A
23. B
24. A
25. B

26. B
27. A
28. B
29. A
30. A

INSTRUCTOR'S SECTION

PRETEST ANSWERS

POSTTEST ANSWERS

SPELLING TEST ANSWERS

EVALUATION SUMMARY

10 POINTS EACH:

Career Search ________

Activity 1: Demonstrate correct keyboarding posture. ________

Activity 2: Identify and locate the Home Keys and use correct fingering. ________

Activity 3: Operate the computer to turn it on and load the *Typing Tutor 5+* program. ________

Activity 4: Use *Typing Tutor 5+* to take six typing lessons and tests and print a progress report. ________

Activity 5: Use the computer to exit the *Typing Tutor 5+* program and turn off the computer. ________

Activity 6: Use the computer and *Typing Tutor 5+* program to learn new keys and/or practice your keyboarding skills. ________

Activity 7: Use *Typing Tutor 5+* to access and play the keyboarding game Letter Invaders. ________

Activity 8: Use the computer and *Typing Tutor 5+* program to learn new keys and/or practice your keyboarding skills. ________

— continued —

INSTRUCTOR'S SECTION

1. PROCESS EVALUATION

EVALUATION SUMMARY

Activity 9: Use *Typing Tutor 5+* to access and play *Mouse Invaders.* ______

Activity 10: Use the computer and a word processing program to type sample text and take a typing test. ______

Activity 11: Use the computer and *Typing Tutor 5+* program to concentrate on areas where you need extra practice. ______

Activity 12: Write a letter at least 100-150 words long. ______

Activity 13: Use the computer and a word processing program to type your hand-written letter. ______

TOTAL POSSIBLE POINTS: 130

INSTRUCTOR'S SECTION

1. PROCESS EVALUATION

1. PROCESS EVALUATION SCORE ____

EVALUATION SUMMARY

The instructor is encouraged to individualize the TLA to address the specific needs of each student, considering age and ability level. In addition to the specific areas on the chart below, the instructor should take into account the student's desire, enthusiasm, etc.

Instructors should evaluate students individually by using the appropriate grading criteria for whichever TSA Competitive Event each student chooses. Students may choose the TSA event for Safety Illustration, Technology Research, or Research Paper.

Instructors will need to fill in the criteria and point values for each criteria in the following chart by looking at the appropriate Judge's rating sheets in the *TSA Curricular Resources Guide*.

—continued—

2. PRODUCT EVALUATION

EVALUATION SUMMARY

Evaluation based upon observed performance = 100 possible points.

EVALUATION RATING TABLE

Student Name:______________

Criteria	Points Possible
__________	_____
__________	_____
__________	_____
__________	_____
__________	_____
__________	_____
__________	_____
__________	_____

INSTRUCTOR'S SECTION

2. PRODUCT EVALUATION

Points Earned

______
______
______
______
______
______
______
______

2. PRODUCT EVALUATION SCORE______

EVALUATION SUMMARY

Pretest Score = ______
(10 points possible)

Career Search = ______
(60 points possible)

Posttest Score = ______
(10 points possible)

Spelling Test Score = ______
(10 points possible)

TOTAL POSSIBLE POINTS = 90

INSTRUCTOR'S SECTION

3. WRITTEN EVALUATION

3. WRITTEN EVALUATION SCORE _____

EVALUATION SUMMARY

EVALUATION WORKSHEET

1. Process Evaluation Score ______
2. Product Evaluation Score ______
3. Written Evaluation Score ______
4. Total Score (300 possible points)______
5. Grade (Divide the total score by 3 to get percentage) ______

INSTRUCTOR'S SECTION

TLA SCORE________

BIBLIOGRAPHY

Donnelly, Frank P. *Learn to Type on Your Computer*, Dictation Disc Co.: New York, NY, 1983.

Keyboarding Curriculum Guide, Department of Education: Lincoln, NE, 1988.

Kriya Systems. *Typing Tutor 5+*, Que Software: Carmel, IN, 1992.

Peters, Cortez. *Cortez Peters Championship Keyboarding, Skillbuilding & Applications*, McGraw-Hill: New York, 1989.

Pocket Pal: A Graphic Arts Production Handbook, International Paper, 1989: Memphis, 1989.

Sullivan, Carol. *Business Information Processing*, East Texas State University: Commerce, TX, 1988.

INSTRUCTOR'S SECTION

TECHNOLOGY EDUCATION

TECHNOLOGY

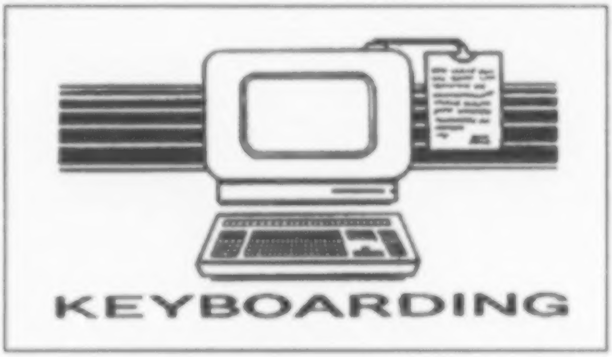
LEARNING

ACTIVITY

TE3115

KEYBOARDING AND COMPUTER APPLICATIONS

Suggested Time: 8 Days



Developed by the
Curriculum and Instructional Materials Center
for the Technology Education Division
Oklahoma Department of Vocational and Technical Education

©
Copyright 1993

Oklahoma Department of Vocational and Technical Education
Curriculum and Instructional Materials Center

All rights reserved.

Printed in the United States of America by the
Oklahoma Department of Vocational and Technical Education
Stillwater, Oklahoma 74074-4364

Menu screens and pull-down menus are reprinted with the
permission from and under the copyright of Que Software.
Portions © 1992, Que Software
Typing Tutor is a registered trademark owned by Kriya Systems, Inc.

Cover photo courtesy NASA

This publication, or parts thereof, may not be reproduced in any form by photographic, electrostatic, mechanical, or other methods, for any use including information storage and retrieval, without written permission from the publisher.

Use of commercial products in these instructional materials does not imply endorsement by the Oklahoma Department of Vocational and Technical Education.

The Oklahoma Department of Vocational and Technical Education does not discriminate on the basis of race, creed, color, national origin, sex, age, veteran status, or qualified handicap.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

On Day 1 you should complete the following activities:

❶ Complete Pretest

❷ Read Assignment Checklist (items to complete in eight days)

❸ Read Goal

❹ Read Words You Should Know

❺ Read Expected Learner Outcomes

❻ Read Objectives

❼ Read Related TSA Competitive Events

❽ Read Academic and Workplace Applications

❾ Complete Objectives 1 and 2

DAY 1 ACTIVITIES

SUMMARY OF ACTIVITIES

Reading Comprehension Skills:
- Gain factual information.

Functional Reading Skills:
- Follow written instructions.
- Use content area vocabulary.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 1 ACTIVITIES

PRETEST

INSTRUCTIONS

You will need a computer scan sheet or card to record your answers. Be sure to write your name, the title of the TLA, the date, and the class period on the computer scan sheet or card using a #2 pencil. Use rows 1-10 to record the answers to the Pretest. If your answers will be hand-scored, use a blank sheet of notebook paper to record your answers and number your answers 1-10.

Get Pretest Questions from your instructor.

When you finish the Pretest, give the Pretest and your answers to your instructor.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

ASSIGNMENTS TO TURN IN

At the end of eight days, you should give the following items to your instructor for evaluation:

1. **Computer score card/sheet with answers to the following:**
    a) Pretest.
    b) Posttest (including spelling test).
2. **Copies of your progress reports for all *Typing Tutor 5+* practice sessions.**
3. **Copies of your two typing tests with Words Per Minute noted at the top of the page.**
4. **A copy of your handwritten letter, and a typed copy of your letter.**
5. **Career Search Activity:**
    a) Read Abstracts.
    b) Choose two careers you would like.
    c) Write a one paragraph essay about why you would choose that career. Write one paragraph each for both careers that you choose.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 1 ACTIVITIES

GOAL

The Keyboarding TLA will help you learn the basics of typing and keyboarding, especially computer keyboarding (or data entry). You will apply the same general procedures in operating a typewriter, a word processor, or any model computer. You will learn why good keyboarding skills are important to business and industry. Most commercial companies and academic institutions use computers and word processing programs for keeping records, completing reports, corresponding, and meeting many other needs.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 1 ACTIVITIES

WORDS YOU SHOULD KNOW

Read the following glossary terms. These words help explain keyboarding and related computer terms. You will need to understand these words and be familiar with them during the other day's activities.

Arrow keys — Move the **cursor** up, down, left or right when you press them. Also called cursor control keys. These keys have only an arrow on them—do not confuse them with the **tab keys**.

Backspace key — Moves the **cursor** backward one space at a time when you press it. It will also delete any letters or numbers as the cursor backs up.

Command — A code or set of instructions that can be keyboarded (typed) into a computer or selected from a **menu** list by the **cursor**. This code is entered into the computer's memory to tell it what operations you want it to perform.

Cursor — A moveable symbol on the computer screen, normally a bar or cross, that moves across the screen as you type or press the **arrow keys**.

— continued —

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 1 ACTIVITIES

WORDS YOU SHOULD KNOW

Disk drive — The device inside the computer that records information you want to save onto a **diskette**. This device also reads information from a diskette so that you can retrieve programs and data.

Diskette — The device you load into the **disk drive** to run your program and save your data.

Display screen — The viewer on your computer that shows you what you are typing (or keyboarding). The **cursor** and **menu** also appear on this screen.

Enter/return key — Returns the cursor to the left margin, enters data into the computer's memory, or executes a **command** when you press it. The key will have either "Enter" or "Return" on it.

Fingering — The correct placement of your fingers on the **keyboard** to enter data.

Function keys — Signal the computer to perform a pre-programmed specific operation when pressed. These are the F1 through F12 keys. Older computers may have only F1 through F10 keys.

— continued —

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 1 ACTIVITIES

WORDS YOU SHOULD KNOW

Home keys — The specific keys where your fingers should rest when you begin **keyboarding**. For the left hand, the home keys are "ASDF." For the right hand, the home keys are "JKL;."

Keyboarding — Typing or entering data into the computer by press keys on the computer keyboard.

Margin — The border of white space around the edge of your paper where you do not type. For letter-size paper, margins are normally 1 to 1½ inches.

Menu — A list displayed on a computer screen which offers specific options and **commands** that can be selected by the **cursor** for operating the computer or the program it is running.

Rhythm — Striking the keys with a quick, sharp stroke at an even rate.

— continued —

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 1 ACTIVITIES

WORDS YOU SHOULD KNOW

Typist — A person who enters data into a computer or creates documents on a **word processor** or typewriter. Also known as a data-entry operator. *Typing Tutor 5+* recognizes four levels of typists.

- The beginner has never typed before and must learn **fingering** first.
- The two-finger typist knows many letters but does not use the correct fingering or all ten fingers.
- The touch typist knows the keys and can type without looking, but needs to develop speed and accuracy.
- The advanced touch typist has good keyboarding skills but wants to increase speed and accuracy on the number and symbol keys.

Word-processing program — A computer program used for writing papers and documents by **keyboarding** the data you want to enter.

Word wrap — When the computer automatically begins a new line when you reach the edge of your page space or **margins**.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 1 ACTIVITIES

EXPECTED LEARNER OUTCOMES

- You will adjust to a changing technological environment.
- You will develop an understanding and the ability to adapt to those technological forces that influence life in the 21st Century.
- You will communicate by making clear and relevant points through the development of mental process skills.
- You will learn applications of lifelong learning skills.
- You will know and appreciate the importance of technology and technological literacy.
- You will explore career opportunities so you can make meaningful occupational choices.
- You will develop keyboarding and computer literacy skills.

— continued —

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 1 ACTIVITIES

EXPECTED LEARNER OUTCOMES

- You will develop basic skills in the safe and proper use of tools, machines, materials, processes, and technical concepts.
- You will recognize and develop individual talents.
- You will think logically and sequentially.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 1 ACTIVITIES

OBJECTIVES

At the completion of this Technology Learning Activity you should be able to:

1. Demonstrate correct keyboarding posture.
2. Identify and locate the Home Keys and use correct fingering.
3. Use the computer and *Typing Tutor 5+* to take six typing lessons and tests and print a report.
4. Use the computer and *Typing Tutor 5+* to learn new keys and/or practice your keyboarding skills.
5. Use *Typing Tutor 5+* to access and play the keyboarding game *Letter Invaders.*
6. Use the computer and *Typing Tutor 5+* program learn new keys and/or practice your keyboarding skills.
7. Use *Typing Tutor 5+* to access and play *Mouse Invaders.*
8. Use the the computer and a word processing program to take a typing test.

— continued —

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 1 ACTIVITIES

9. Use the computer and *Typing Tutor 5+* to concentrate on areas where you need extra practice.
10. Write a letter at least 100-150 words long.
11. Use the computer and a word processing program to type your hand-written letter and test your typing speed.

OBJECTIVES

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

The following TSA Competitive Events apply to your study of Keyboarding and Computer Applications:

- Safety Illustration
- Technology Research
- Research Paper

See *TSA Curricular Resources Guide* for specific details on the competition.

DAY 1 ACTIVITIES

RELATED TSA COMPETITIVE EVENTS

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

The symbols in the right column are used to identify Academic and Workplace Applications that are reinforced by this TLA.

Language Arts Concepts Applied:
- Gain factual information
- Read, interpret, and apply written instructions
- Identify incorrectly spelled words

Writing Skills Applied:
- Write letters and use word processing
- Use correct spelling, punctuation, and capitalization
- Proofread and edit

Creative Thinking and Problem- Solving Skills Applied:
- Transfer knowledge/training to new situations
- Apply new technology
- Evaluate results/outcomes
- Create a finished product

— continued —

DAY 1 ACTIVITIES

ACADEMIC AND WORKPLACE APPLICATIONS

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

Employability Skills Applied:

- ◆ Analyze personal occupation preferences
- ◆ Investigate requirements for a career field/ occupation
- ◆ Master specific job task/procedure

DAY 1 ACTIVITIES

ACADEMIC AND WORKPLACE APPLICATIONS

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

On Day 2 you should complete the following activities:

❶ Read Information Sheet

❷ Complete Objective 1

❸ Complete Objective 2

❹ Complete Objective 3

DAY 2 ACTIVITIES

SUMMARY OF ACTIVITIES

Reading Comprehension Skills:
- Gain factual information
- React to written material

Functional Reading Skills:
- Follow written instructions
- Interpret forms and records

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 2 ACTIVITIES

INFORMATION SHEET

To work in many professions you should learn how to type so you can use a typewriter or enter data into a computer. Typing information and data into a computer is known as *data entry*. This process of entering data is also known as *keyboarding*, because you use a keyboard to type in the data. Successful typists and computer operators must know how to enter data accurately and quickly.

When learning to type or keyboard, you should sit straight up, lean slightly forward, keep both feet on the floor, and place the material you are typing to the right of the keyboard.

Learning the correct fingering is important for using all the fingers of both hands. You will begin by learning the **home keys**. These keys will be the starting point for your fingers whenever you begin typing. By continually striking specific keys with the same fingers, you will develop the habit of finding the correct keys by touch. Strike the keys with a quick, sharp stroke.

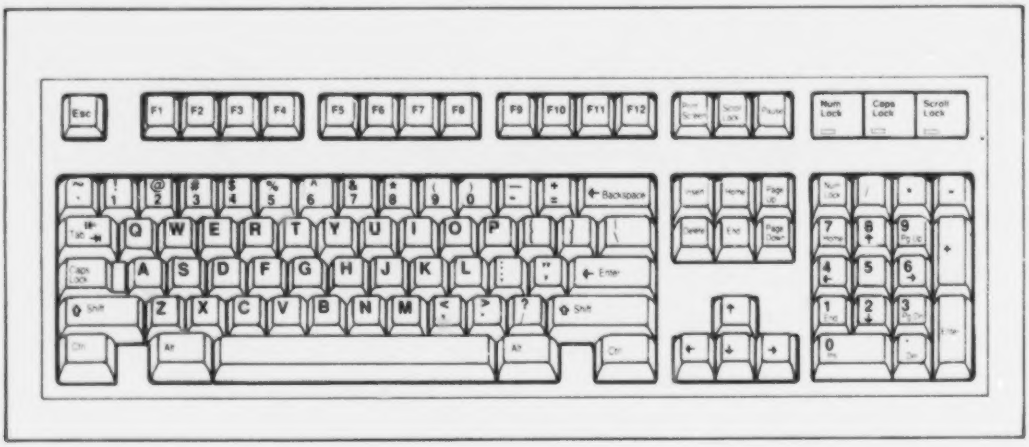
— continued —

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 2 ACTIVITIES

The main goal in learning to type is to achieve a level of speed and accuracy. Fast isn't good unless you are also correct. Set your goals above what you can do already and work up to them. As you practice, pay special attention to the backspace, return, shift, and tab keys to improve your speed and accuracy. Also important are keeping your eyes on the copy (or screen) and typing with rhythm — striking the keys at an even rate.

Look at the keyboard picture below.


Esc
F1
F2
F3
F4
F5
F6
F7
F8
F9
F10
F11
F12
Num Lock
Caps Lock
Scroll Lock
Backspace
Tab
Caps Lock
Enter
Shift
Shift
Ctrl
Alt
Alt
Ctrl
Q W E R T Y U I O P
A S D F G H J K L
Z X C V B N M

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 2 ACTIVITIES

OBJECTIVE 1

Demonstrate correct keyboarding posture.

TOOLS AND MATERIALS

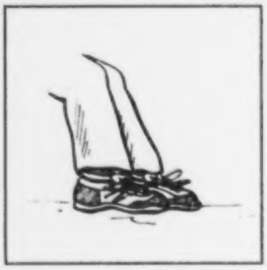
➢ Computer

PROCEDURE

FOLLOW THESE STEPS:

The following ten steps will help your keyboarding skills and keep you from becoming tired quickly. Use them whenever you are keyboarding.

STEP 1: **Place both feet flat on the floor with one foot ahead of the other. Never cross your legs.**



STEP 2: **Position your keyboard so it is centered in front of the computer screen.**

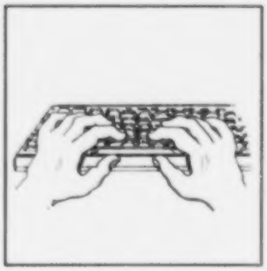
STEP 3: **Sit back in your chair in a comfortable, relaxed position.**

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

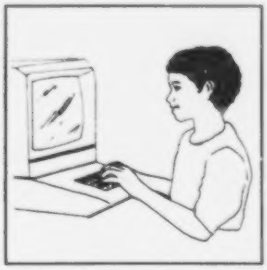
DAY 2 ACTIVITIES

FOLLOW THESE STEPS:

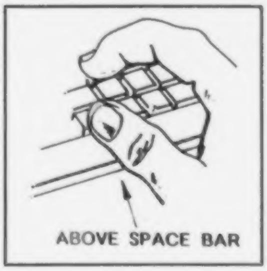
STEP 4: Curve your fingers as if you were scratching. Keep your fingers curved over the keyboard in this scratch-like position.



STEP 5: Your upper arms should be perpendicular to the floor and both elbows should be a hand's distance from the body.



STEP 6: Keep your right thumb poised above the space bar, between the B and N keys.



STEP 7: Place your body only a few inches from the keyboard.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 2 ACTIVITIES

KEYBOARDING

STEP 8: Do NOT look at your fingers while using the keyboard.

STEP 9: Keep your fingers as close to the keyboard as possible.

STEP 10: Try to keyboard rhythmically.

STEP 11: Have your instructor observe your keyboarding posture.

Continue Day 2 Activities by completing Objective 2.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 2 ACTIVITIES

OBJECTIVE 2

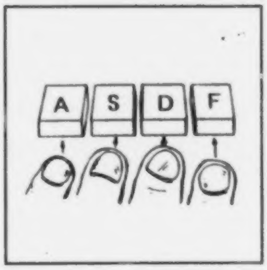
Identify and locate the home keys and use correct fingering.

PROCEDURE

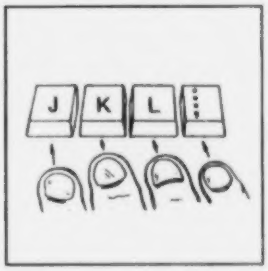
FOLLOW THESE STEPS:

STEP 1: **Study the middle row of alphabet keys on the keyboard. The left hand home keys are ASDF. The right hand home keys are JKL;.**

STEP 2: **Place your left forefinger on the F key, your second finger on the D key, your third finger on the S key, and your fourth finger (pinky) on the A key.**



STEP 3: **Place your right forefinger on the J key, your second finger on the K key, your third finger on the L key, and your fourth finger on the ; key.**



TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 2 ACTIVITIES

FOLLOW THESE STEPS:

STEP 4: With both hands in position, use your finger tips to strike the keys ASDF JKL; one at a time.

Make a sharp, quick downward and upward motion. When spacing, use only the side of your thumb.

STEP 5: Ask your instructor to observe your fingering on the keyboard.

Continue Day 2 Activities by completing Objective 3.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 2 ACTIVITIES

OBJECTIVE 3

Use *Typing Tutor 5+* to take six typing lessons and tests and print a report.

TOOLS AND MATERIALS

- Computer
- *Typing Tutor 5+* program

PROCEDURE

FOLLOW THESE STEPS:

STEP 1: Sit down at a computer terminal.

WARNING

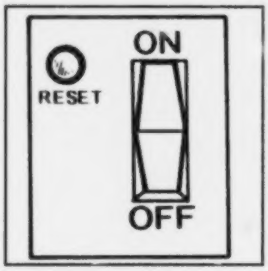
ELECTROCUTION POSSIBLE. Surge protector carries ELECTRICAL VOLTAGE that can cause death or injury. Do NOT touch electrical plugs or insert ANYTHING into the receptacles.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

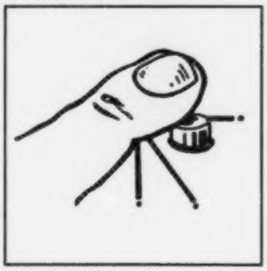
DAY 2 ACTIVITIES

FOLLOW THESE STEPS:

STEP 3: Turn ON the surge protector.



STEP 4: Press the RESET button on the surge protector.



IMPORTANT

Words that you will see on the screen are in quotation marks. Words that you should type are in large, bold letters. Type these exactly as they appear. Special keys you should press are in capital letters (these either give the name or describe the symbol on the key).

Examples:

Check the "One player" box."

Type **tt**.

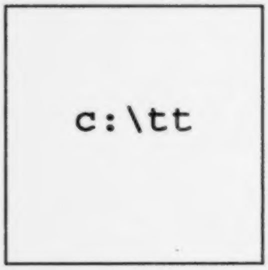
Press the ENTER key.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 2 ACTIVITIES

FOLLOW THESE STEPS:

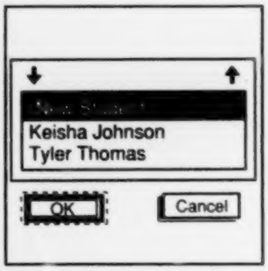
STEP 5: At the "C:\" prompt, type tt and press the ENTER key to load the *Typing Tutor 5+* program. If this does not work, ask your instructor how to load the program.



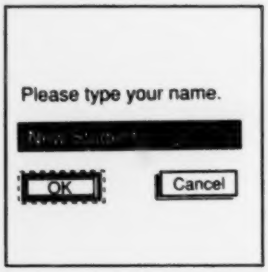
```
c:\tt
```

STEP 6: The screen should show a keyboard with the title "Typing Tutor 5+." Press any key.

STEP 7: You will be asked to select your name or register as a new student. "New Student" should be highlighted — if not, use the ARROW KEYS to move the red highlight to "New Student." Press ENTER.



STEP 8: The screen will read "Please type your name." Carefully type your first and last name, then press ENTER.



Please type your name.

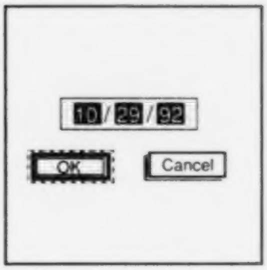
New Student

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 2 ACTIVITIES

FOLLOW THESE STEPS:

STEP 9: Next, the computer screen asks you to verify the date. If the date is correct, use the ARROW KEYS to highlight "Yes," then press ENTER. If the date is not correct, type in the correct date. Type numbers only — do not type the / (slash). Press ENTER.



10/29/92

STEP 10: Read the introduction that appears on screen (it is 6 computer screens long.) Press ENTER when you want to go to the next page.

The next step allows you to set your current skill level. Be honest about your ability.

Beginner: You haven't typed before.

Two finger typist: You can "hunt and peck," but you don't know the keys and fingering for using both hands.

Touch typist: You know the alphabetic keys and fingering. You can type without looking at the keys, but you want to improve your speed and accuracy.

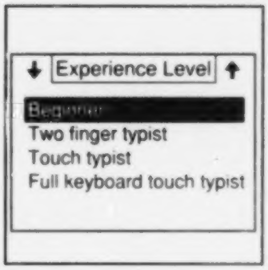
Full keyboard touch typist: You can use all keys, including numbers and punctuation, and want to improve your speed and accuracy.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

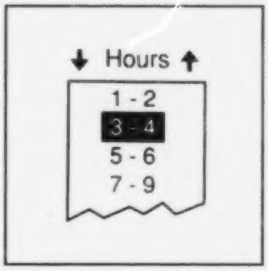
DAY 2 ACTIVITIES

FOLLOW THESE STEPS:

STEP 11: When the screen asks you to enter your skill level, use the ARROW KEYS to highlight the correct level, then press ENTER.


Experience Level
Beginner
Two finger typist
Touch typist
Full keyboard touch typist

STEP 12: When the screen asks you how many hours you will practice, use the ARROW KEYS to highlight the "3-4" level, then press ENTER.


Hours
1 - 2
3 - 4
5 - 6
7 - 9

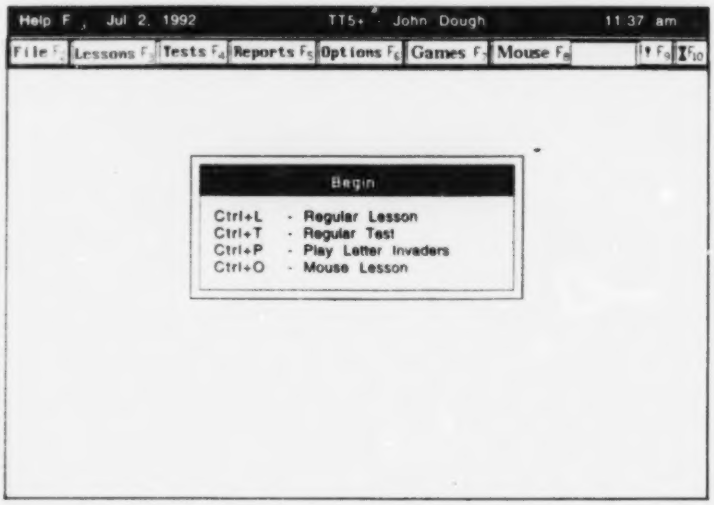
STEP 13: If you selected "Touch Typist" or "Full Keyboard Touch Typist" as your skill level, you will have a short typing test. Follow the directions on the screen. If you selected "Beginner" or "Two Finger Typist," go to Step 14.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 2 ACTIVITIES

FOLLOW THESE STEPS:

STEP 14: You should be at a blue screen with menu keys across the top. This is called the Program Window (see below). You will see a "Begin" menu in the center of the screen.


Help F1
Jul 2, 1992
TT5+ · John Dough
11:37 am
File F2
Lessons F3
Tests F4
Reports F5
Options F6
Games F7
Mouse F8
↑ F9
Σ F10
Begin
Ctrl+L - Regular Lesson
Ctrl+T - Regular Test
Ctrl+P - Play Letter Invaders
Ctrl+O - Mouse Lesson

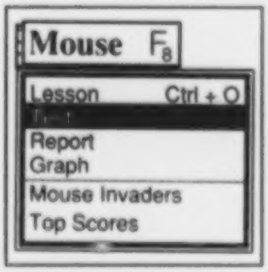
Type CTRL+O (press the CTRL key and the **O** key at the same time) for the mouse lesson. Complete the mouse lesson even if you have used a mouse before. Pay close attention to the section on menu bars and pull-down menus. You will use these features in this TLA.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 2 ACTIVITIES

FOLLOW THESE STEPS:

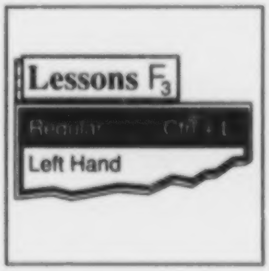
STEP 15: When you have completed the mouse lesson, pull down the "Mouse" menu and select "Test." Follow the on-screen directions to take the single-click, double-click, and dragging test.


Mouse F8
Lesson Ctrl + O
Test
Report
Graph
Mouse Invaders
Top Scores

In steps 16 through 23 you will complete a typing lesson based on your present skill level.

STEP 16: When you have finished your mouse test you should be back at the Program Window. There are two methods you can use to select a lesson:

- Use the mouse to pull down the "Lessons" menu and double-click on "Regular", OR
- Type CTRL+L

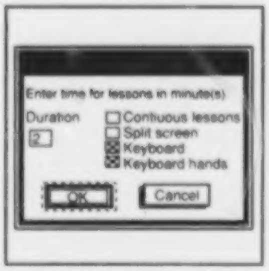

Lessons F3
Regular Ctrl + L
Left Hand

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 2 ACTIVITIES

FOLLOW THESE STEPS:

STEP 17: You should see a menu titled "Regular Lesson Options." If you are a beginner or two-finger typist, use the mouse to check the boxes that say "Keyboard" and "Keyboard Hands." If you are a touch typist, you may be distracted by the keyboard and hands, so "uncheck" these boxes. The "Continuous Lessons" box should be blank — if it is not, click inside the box.


Enter time for lessons in minute(s)

Duration 2

☐ Contiuous lessons
☐ Split screen
☒ Keyboard
☒ Keyboard hands

STEP 18: The "Duration" box should say "2 minutes." If not, use the mouse to position the arrow directly to the **right** of the number in the box. Click the left mouse button, then backspace over the number in the box and type **2**.

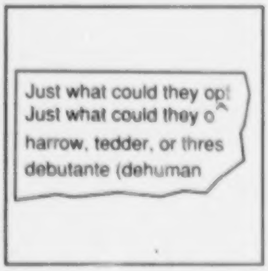
STEP 19: Press ENTER or click on the "Continue" box to begin the lesson.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 2 ACTIVITIES

FOLLOW THESE STEPS:

STEP 20: Type the letter that the arrow on the screen is pointing to. Do not worry about speed at this time. Just try to be accurate. If you are not already a touch typist, you can look at the hands and keyboard on the bottom half of the screen if you forget where a key is located. The next key to type will be highlighted.

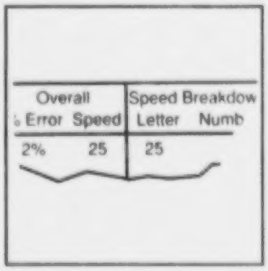


Just what could they op
Just what could they o
harrow, tedder, or thres
debutante (dehuman

STEP 21: If you make an error, you will hear a beep. First press BACKSPACE, then type the correct letter and continue.

STEP 22: When you come to the end of a line, press ENTER. Keep typing – the screen will change when your time is up.

STEP 23: When you have finished the first lesson, you will see a progress report at top of the screen.



Overall		Speed Breakdow	
% Error	Speed	Letter	Numb
2%	25	25	

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

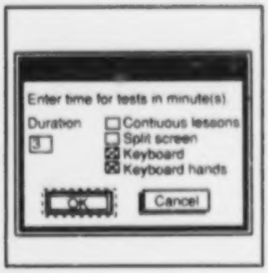
DAY 2 ACTIVITIES

FOLLOW THESE STEPS:

Steps 24 through 28 allow you to take a test over the lessons you just had to see how you score in speed and accuracy.

STEP 24: Use the pull-down "Tests" menu or type CTRL+T to select a regular test.

STEP 25: You should see a menu titled "Regular Test Options." Use the mouse to check the boxes that say "Keyboard" and "Keyboard Hands" if you are a beginner or two-finger typist.



Enter time for tests in minute(s)

Duration 3

☐ Contuous lessons
☐ Split screen
☒ Keyboard
☒ Keyboard hands

STEP 26: The "Duration" box should say "1 minute." If not, use the mouse to position the arrow directly to the right of the number in the box. Click the left mouse button, then backspace over the number in the box and type 1.

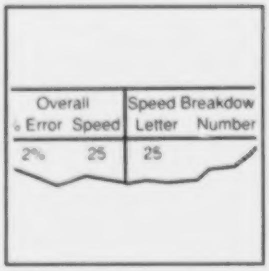
TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 2 ACTIVITIES

FOLLOW THESE STEPS:

STEP 27: Follow the instructions that appear on screen to take the test.

STEP 28: When you have finished the test, you will see a progress report. Read your progress report, then use the mouse to click on "Cancel."



Overall		Speed Breakdow	
% Error	Speed	Letter	Number
2%	25	25	

STEP 29: Repeat steps 24 through 28 to take five more lessons and five more tests.

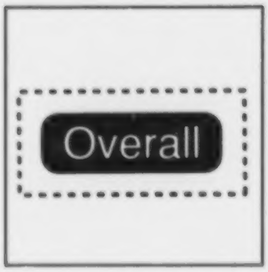
STEP 30: After you take your sixth test, pull down the "Reports" menu and click on "Progress" to see your progress report.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 2 ACTIVITIES

FOLLOW THESE STEPS:

STEP 31: You should see a menu titled "Student Progress Report - your name." Click on the "Overall Information" box.



STEP 32: You will see a list of the lessons and tests you have taken so far, along with your WPM (words per minute) and error rate. Read your report, then click on "Print."

STEP 33: Press ENTER at the next two menus. Do not alter any of these settings – they have been set up by your instructor. You should see a message that your report is being printed.

IMPORTANT

If the printer does not print your progress report, ask your instructor for help.

FOLLOW THESE STEPS:

STEP 34: After you have printed your progress report, you should be back at the Program Window.

NOTE:

If you have time, select "Regular Lesson" again and continue improving your keyboarding skills. If you are out of time, proceed to Step 35.

IMPORTANT

Steps 35 through 37 will allow you to EXIT (take you out of) the *Typing Tutor 5+* program and return you to the C: prompt so you can turn off the computer.

STEP 35: Press the ESC key or pull down the "File" menu and click on "ESC."

FOLLOW THESE STEPS:

STEP 36: When the screen asks you "would you like to save this session's results to your history file?", highlight "Yes" and click on "OK."

The "C:\" prompt will appear. You are at the first screen that you saw when you turned the computer on.

WARNING

ELECTROCUTION POSSIBLE. Surge protector carries ELECTRICAL VOLTAGE that can cause death or injury. Do NOT touch electrical plugs or insert ANYTHING into the receptacles.

STEP 37: When the "C:\" prompt appears on the screen, turn off the surge protector.

STEP 38: Turn in your printed progress report of today's activities.

```
C:\
```

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 2 ACTIVITIES

FOLLOW THESE STEPS:

STEP 39: When you complete Objectives 1 through 3, return all materials to their proper storage area and clean your work area.

If you finish Day 2 Activities with time left over, you may begin Day 3 Activities.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

On Day 3 you should complete the following activities:

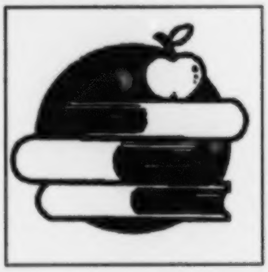
❶ Read Information Sheet

❷ Complete Objective 4

❸ Complete Objective 5

DAY 3 ACTIVITIES

SUMMARY OF ACTIVITIES



Reading Comprehension Skills:
- Gain factual information
- React to written material

Functional Reading Skills:
- Follow written instructions
- Interpret forms and records

INFORMATION SHEET

Before computers and word-processing programs became affordable and popular, most businesses used typewriters. Typewriters are machines that produce impressions of letters on paper. The first typewriter was invented in 1714, the first U.S. patent was issued in 1829, and the first electric typewriter was made in 1908.

Before typewriters were available, documents (including business letters) were written by hand. Publications such as newspapers and books had to be typeset by hand to print large quantities. Typesetting, which was first used by Johannes Gutenberg in 1440, involves assembling type (individual metal letters) into words, lines, and pages. The assembled type was spread with ink and used as a stamp to print pages.

Typesetting is still used for many publications. For example, many of your textbooks are typeset. Thousands of copies can be printed and each one will be exactly alike. The typesetting process is becoming faster and easier with the use of technology such as computers and machines that produce entire lines of type.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 3 ACTIVITIES

OBJECTIVE 4

Use the computer and *Typing Tutor 5+* program to learn new keys and/or practice your keyboarding skills.

TOOLS AND MATERIALS

- Computer
- Typing Tutor 5+

PROCEDURE

FOLLOW THESE STEPS:

WARNING
ELECTROCUTION POSSIBLE. Surge protector carries ELECTRICAL VOLTAGE that can cause death or injury. Do NOT touch electrical plugs or insert ANYTHING into the receptacles.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 3 ACTIVITIES

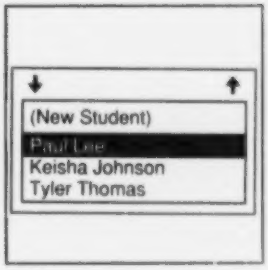
KEYBOARDING

FOLLOW THESE STEPS:

STEP 1: Turn on the computer and load the *Typing Tutor 5+* program.

Remember that you learned how to accomplish these tasks during Objective 3 for Day 2. If you need to, re-read the steps for Day 2, Objective 3 again.

STEP 2: Press the down ARROW KEY until your name is highlighted, then press ENTER.



STEP 3: Verify the correct date or change the date.

STEP 4: Select "Regular" from the "Lessons" menu or press CTRL+L to begin a lesson.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 3 ACTIVITIES

FOLLOW THESE STEPS:

If you are a beginner or two-finger typist, you should take lessons and tests until you have learned the letter U. If you are a touch typist, take 10 lessons.

STEP 5: Use the steps you learned to take more lessons. Take a test after each lesson.

STEP 6: Print an overall progress report.

Continue Day 3 activities by completing Objective 5.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 3 ACTIVITIES

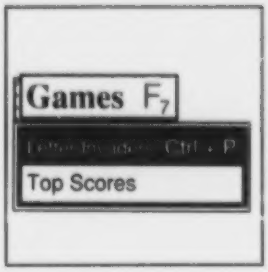
OBJECTIVE 5

Use *Typing Tutor 5+* to access and play the keyboarding game *Letter Invaders.*

PROCEDURE

FOLLOW THESE STEPS:

STEP 1: You should be at the blue screen. Pull down the "Games" menu and highlight "Letter Invaders."



STEP 2: Choose "One Player" and "Practice Keys Only."

STEP 3: Read the instructions on screen. When you are ready to begin, press ENTER.

Play Letter Invaders until the end of class time.

STEP 4: EXIT the *Typing Tutor 5+* program, save your session results, and turn off the computer.

Remember that you learned how to accomplish these tasks during Objective 3 for Day 2. If you need to, re-read the steps for Objective 3, Day 2.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 3 ACTIVITIES

FOLLOW THESE STEPS:

STEP 5: Turn in your progress report of today's activities.

STEP 6: When you complete Objectives 4 & 5, return all materials to their proper storage area and clean your work area.

If you finish Day 3 Activities with time left over, you may begin Day 4 Activities.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

On Day 4 you should complete the following activities:

❶ Read Information Sheet

❷ Complete Objective 6

❸ Complete Objective 7

DAY 4 ACTIVITIES

SUMMARY OF ACTIVITIES

Reading Comprehension Skills:
- Gain factual information.
- React to written material.

Functional Reading Skills:
- Follow written instructions.
- Interpret forms and records.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 4 ACTIVITIES

INFORMATION SHEET

Being able to keyboard allows you to type data into a computer and enter system commands telling it how to perform certain functions. You must be able to keyboard to operate software programs. These are individual programs, such as *Typing Tutor 5+*, that are stored on diskettes or in a computer's hard drive. You buy software to perform specific functions on a computer such as calculating, word processing, and creating graphics. You may have have used software to play computer games.

Computers can be used to calculate, sort, file, edit, and perform other kinds of information processing. They can process this information at quickly, accurately, and reliably. Computer use has increased dramatically in the last forty years. There were fewer than 15 computers in use in the 1950s. More than 20% of households had computers in 1991. The number of computers in use is growing about 20% each year.

The special jobs that computers perform are countless. Many are mentioned in your Impact Statements. Computers are used in industries such as aviation, medicine, agriculture, finance, marketing, and weather forecasting. They also help people conduct and understand research in many fields. To use a computer efficiently, you need good keyboarding skills.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 4 ACTIVITIES

OBJECTIVE 6

Use the computer and *Typing Tutor 5+* program to learn new keys and/or practice your keyboarding skills.

TOOLS AND MATERIALS

- Computer
- *Typing Tutor 5+*

PROCEDURE

FOLLOW THESE STEPS:

WARNING
ELECTROCUTION POSSIBLE. Surge protector carries ELECTRICAL VOLTAGE that can cause death or injury. Do NOT touch electrical plugs or insert ANYTHING into the receptacles.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 4 ACTIVITIES

FOLLOW THESE STEPS:

STEP 1: Turn on the computer and load the *Typing Tutor 5+* program.

Remember that you learned how to accomplish these tasks during Objective 3 for Day 2. If you need to, re-read the steps for Day 2, Objective 3 again.

STEP 2: Press the down ARROW KEY until your name is highlighted, then press ENTER.

STEP 3: Verify the correct date or change the date.

STEP 4: Select "Regular" from the "Lessons" menu or press CTRL+L to begin a lesson.

If you are a beginner or two-finger typist, continue taking lessons and tests until you have learned the letter Z. If you are a touch typist, take 8 lessons and tests.

STEP 5: Continue taking lessons until you have learned the letter Z or taken 8 lessons. Take a test after each lesson.

STEP 6: Print an overall progress report.

Continue Day 4 activities by completing Objective 7.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

Use *Typing Tutor 5+* to access and play *Mouse Invaders.*

FOLLOW THESE STEPS:

STEP 1: You should be at the Program Window. Pull down the "Mouse" menu and highlight "Mouse Invaders."

STEP 2: Choose "One Player" and "Beginner Level."

STEP 3: Read the instructions on screen.

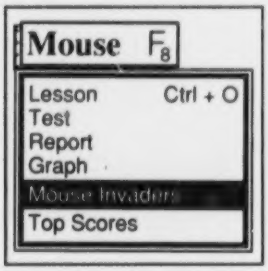
STEP 4: When you are ready to begin, press ENTER.

Play Mouse Invaders until the end of class time.

DAY 4 ACTIVITIES

OBJECTIVE 7

PROCEDURE


Mouse F8
Lesson Ctrl + O
Test
Report
Graph
Mouse Invaders
Top Scores

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 4 ACTIVITIES

KEYBOARDING

FOLLOW THESE STEPS:

STEP 5: When your class time is over, EXIT the *Typing Tutor 5+* program, save your session results, and turn off the computer.

Remember that you learned how to accomplish these tasks during Objective 3 for Day 2. If you need to, re-read the steps for Objective 3, Day 2.

WARNING

ELECTROCUTION POSSIBLE. Surge protector carries ELECTRICAL VOLTAGE that can cause death or injury. Do NOT touch electrical plugs or insert ANYTHING into the receptacles.

STEP 6: Turn in your progress report of today's activities.

STEP 7: When you complete Objectives 6 and 7, return all materials to their proper storage area and clean your work area.

If you finish Day 4 Activities with time left over, you may begin Day 5 Activities.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

On Day 5 you should complete the following activities:

1. Read Information Sheet
2. Complete Objective 8

DAY 5 ACTIVITIES

SUMMARY OF ACTIVITIES

- Transfer knowledge/training to new situations
- Apply new technology
- Evaluate results/outcomes

- Calculate with whole numbers

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 5 ACTIVITIES

INFORMATION SHEET

Since the invention of typewriters, people have experimented with ways to make typing faster, more accurate, and easier to correct. With the computer technology easily available today, there is a growing market for word processing programs.

Today you will apply what you have learned about keyboarding to typing text in a word processing program.

Word processing is an operation which takes written, verbal, or recorded information and turns it into typewritten or printed form. To convert this information, you must keyboard it into the computer's memory. The keyboard allows you to enter the information and to operate the computer. The display or computer screen allows you to check and correct the information as you enter it. The keyboard is also used to control the cursor on the screen. This cursor is a position indicator and tells you where you are on the screen (or in your text). Move the cursor up, down, left, or right by pressing the arrow keys.

— continued —

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 5 ACTIVITIES

Word processing programs make creating many types of documents faster and easier. Using a computer with a word processing program allows you to make changes to part of the document without re-doing the entire thing. This saves time and money, and makes the job easier and more enjoyable.

Using a word processing program allows you to compose, edit, format, and print these documents much more easily and quickly than on a typewriter. Some programs can operate at 350 words per minute. Using a word processing program on a computer also means that you can store your data and retrieve it for later use. Other functions of many word processing programs include checking spelling, counting words, and changing margins.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 5 ACTIVITIES

OBJECTIVE 8

Use the computer and a word processing program to take a typing test.

TOOLS AND MATERIALS

- Computer
- Word processing program
- Timer
- Text on page 57

PROCEDURE

FOLLOW THESE STEPS:

WARNING
ELECTROCUTION POSSIBLE. Surge protector carries ELECTRICAL VOLTAGE that can cause death or injury. Do NOT touch electrical plugs or insert ANYTHING into the receptacles.

IMPORTANT
Ask your instructor how to load the word processing program.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 5 ACTIVITIES

FOLLOW THESE STEPS:

STEP 1: Turn on the computer and load the word processing program.

STEP 2: Get comfortable, relax, and get in the correct keyboarding position.

This test will measure your typing speed and accuracy. You need to know the letter keys and basic punctuation. Do not look at the keyboard while you type. Keep your eyes on the text you are copying.

IMPORTANT

Ask your instructor how to use the timer before you begin the next step.

STEP 3: Set the timer for 1 to 5 minutes and type the text on the next page as accurately as possible until the timer stops. Don't try to correct any mistakes as you go—just keep typing. If you finish the text before the timer stops, start typing from the beginning again.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 5 ACTIVITIES

1 2 3 4 5 6 7 8 9 10 11
Keyboarding makes it possible to enter complex data into a
12 13 14 15 16 17 18 19 20 21 22
computer and run simulation programs that help people
23 24 25 26 27 28 29 30 31 32 33 34
understand and even predict the impacts particular events or
35 36 37 38 39 40 41 42 43 44 45 46
processes can have on the environment. For example, weather
47 48 49 50 51 52 53 54 55 56 57 58 59 60
forecasters enter specifics about wind speed, temperature, rainfall,
61 62 63 64 65 66 67 68 69 70 71
and more to help them accurately predict the weather.
72 73 74 75 76 77 78 79 80 81 82 83
Computers can process satellite data and produce weather maps
84 85 86 87 88 89 90 91 92 93 94 95
or be used to study the earth's geological characteristics.

96 97 98 99 100 101 102 103 104 105 106 107 108
Another example is the use of simulation programs to test the
109 110 111 112 113 114 115 116 117 118 119 120
effects of warming trends on the earth's environment. You have
121 122 123 124 125 126 127 128 129 130 131 132 133
probably heard of some of these studies on the greenhouse effect
134 135 136 137 138 139 140 141 142 143 144 145 146
or global warming. Using computers, researchers can process the
147 148 149 150 151 152 153 154 155 156 157 158 159
data quickly and accurately. The computer operator who enters
160 161 162 163 164 165 166 167 168 169 170 171
the data must have good keyboarding skills to ensure speed and
172 173
accuracy.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 5 ACTIVITIES

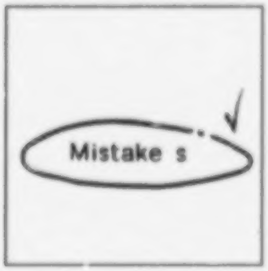
FOLLOW THESE STEPS:

STEP 4: When the timer stops, stop typing. Ask your instructor to help you print your test. Write your name on the top of the page.

STEP 5: Look at the original text (page 57) and find the red number **closest to where you stopped typing.** Write this number on the top of your page and label it "total words."

Total words	60

STEP 6: Read your test carefully and circle any mistakes.


Mistake s

STEP 7: Count your mistakes. Write this number on your test under your total words and label it "mistakes."

Total words	60
Mistakes	6

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 5 ACTIVITIES

FOLLOW THESE STEPS:

STEP 8: Subtract your mistakes from your total words. Write this number on your test and label it "correct words."

Total words	60
Mistakes	6
Correct words	54

STEP 9: To find your correct words per minute, divide your correct words by the number of minutes you typed. Label this score "wpm" for words per minute. Show your work at the top of your page.

Total words	60
Mistakes	6
Correct words	54
54 ÷ 2 =	27 wpm

STEP 10: Examine your mistakes. What kind of errors were common? Did you miss keys on the top or bottom row? Did you miss more keys with your left or right hand? Tomorrow you will work on these areas where you need extra practice.

STEP 11: Write your name on the top of the page of your test.

Do you think you can do better? Try the test again.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 5 ACTIVITIES

FOLLOW THESE STEPS:

STEP 12:	Repeat steps 2 through 9 and see if your average improves.
STEP 13:	Ask your instructor how to EXIT the word processing program.

WARNING

ELECTROCUTION POSSIBLE. Surge protector carries ELECTRICAL VOLTAGE that can cause death or injury. Do NOT touch electrical plugs or insert ANYTHING into the receptacles.

STEP 14:	When you have finished and exited all running programs, turn off the computer.
STEP 15:	Turn in all copies of your test to your instructor.
STEP 16:	When you complete Objective 8, return all materials to their proper storage area and clean your work area.

If you finish Day 5 Activities with time left over, you may play *Letter Invaders* or *Mouse Invaders*, or begin Day 6 Activities.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

On Day 6 you should complete the following activities:

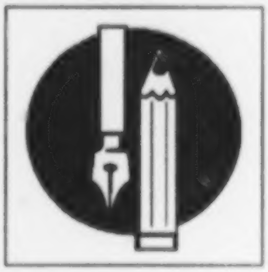
❶ Read Information Sheet

❷ Complete Objective 9

❸ Complete Objective 10

DAY 6 ACTIVITIES

SUMMARY OF ACTIVITIES



Writing Skills Applied:
- Write letters and use word processing
- Use correct spelling, punctuation, and capitalization
- Proofread and edit

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 6 ACTIVITIES

INFORMATION SHEET

Statistics show that more than two billion business letters and memorandums were written and sent in 1990. This amount of correspondence shows how important writing can be on the job. Being able to keyboard with speed and accuracy will help you succeed in the workplace.

Most businesses use computers with word processing programs. Such programs allow companies to keep letter formats on file, so they can quickly be personalized or updated to send as needed. When you write letters, knowing how to type and use a word processor will make this task easier and more fun.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 6 ACTIVITIES

OBJECTIVE 9

Use the computer and *Typing Tutor 5+* program to concentrate on areas where you need extra practice.

TOOLS AND MATERIALS

- Computer
- *Typing Tutor 5+*

PROCEDURE

FOLLOW THESE STEPS:

WARNING

ELECTROCUTION POSSIBLE. Surge protector carries ELECTRICAL VOLTAGE that can cause death or injury. Do NOT touch electrical plugs or insert ANYTHING into the receptacles.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

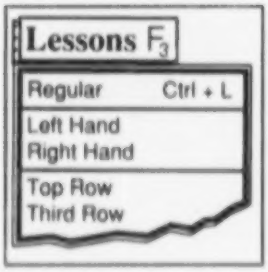
DAY 6 ACTIVITIES

FOLLOW THESE STEPS:

STEP 1: Turn on the computer and load the *Typing Tutor IV+* program.

Remember that you learned how to accomplish these tasks during Objectives 3 and 4 for Day 2. If you need to, re-read the steps for Day 2, Objectives 3 and 4 again.

STEP 2: Pull down the "Lessons" menu and highlight the lesson that covers the area where you need extra practice. If you don't need to emphasize a particular area, select "Regular Lesson."



STEP 3: When you have finished the first lesson and viewed your Progress Report, take a test. Your test should be over the same area as your lesson.

STEP 4: Complete three more tests and three more lessons.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 6 ACTIVITIES

FOLLOW THESE STEPS:

STEP 5: **When you have completed the last test, print a copy of your Progress Report.**

WARNING

ELECTROCUTION POSSIBLE. Surge protector carries ELECTRICAL VOLTAGE that can cause death or injury. Do NOT touch electrical plugs or insert ANYTHING into the receptacles.

STEP 6: **EXIT the *Typing Tutor IV+* program, save your results to your history file and diskette, and turn off the computer.**

Remember that you learned how to accomplish these tasks during Objective 5 for Day 2. If you need to, re-read the steps for Objective 5, Day 2.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 6 ACTIVITIES

FOLLOW THESE STEPS:

STEP 7: Turn in your progress report to your instructor with today's activities.

Continue Day 6 Activities by completing Objective 10.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

Write a letter at least 100-150 words long.

You will type this letter tomorrow using the word processing program.

- ➢ Pen or pencil with eraser
- ➢ Two to four sheets of notebook paper

FOLLOW THESE STEPS:

STEP 1: Using your pen or pencil and notebook paper, write a first draft of a letter to type at least 100-150 words long. It can be longer if you wish.

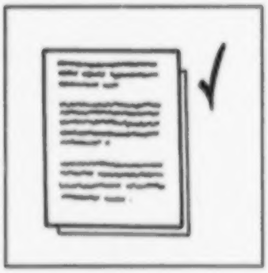
Write a letter to a friend about your experiences with Technology Education.

STEP 2: Edit your draft.
- ♦ Check for complete sentences and paragraphs.
- ♦ Correct spelling errors.
- ♦ Check for correct punctuation.

DAY 6 ACTIVITIES

OBJECTIVE 10

TOOLS AND MATERIALS



TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 6 ACTIVITIES

FOLLOW THESE STEPS:

STEP 3: Count the total number of words in the letter to make sure you have at least 100 and write the total at the top of your letter

STEP 4: Write your name on the top of the page of your letter so you can get it back tomorrow to type from it.

STEP 5: Turn in your hand-written letter to your instructor.

STEP 6: When you complete Objectives 10 & 11, return all materials to their proper storage area and clean your work area.

If you finish Day 6 Activities with time left over, you may play *Letter Invaders* or *Mouse Invaders* for the rest of the hour or begin Day 7 Activities.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

On Day 7 you should complete the following activities:

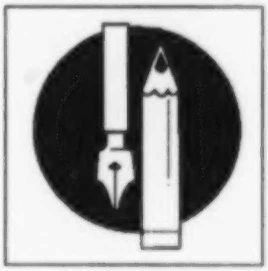
❶ Read Information Sheet

❷ Complete Objective 11

DAY 7 ACTIVITIES

SUMMARY OF ACTIVITIES

- Transfer knowledge/training to new situations
- Evaluate results/outcomes
- Create a finished product



- Use word processing

- Calculate with whole numbers
- Select/apply mathematical\ formula

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 7 ACTIVITIES

INFORMATION SHEET

So far, you have typed from examples shown on a computer screen and printed in a book. This does not happen very often in real life. In the future, you will usually type from originals that have been written by hand or dictated (using a tape recorder or dictating machine). Today you will apply what you have learned about keyboarding to typing an original letter.

When your typing speed is calculated, it is called "words per minute." In typing, a "word" does not mean an actual word. A typing "word" used to measure speed consists of five letters and/or spaces. For example, "*Technology Education*" would be counted as four words, because it has a total of 20 letters and spaces. If actual words were counted, your typing speed would be slower when you typed long words, and faster when you typed short words. You will see an example of this in today's activity. When you type your hand-written letter, you will count the number of actual words you typed. This may be higher or lower than your usual words per minute score, depending on the length of the words in your letter.

You should realize by now that keyboarding is an important skill, but it takes time to learn. Allow yourself time to develop at your own pace. If you do not use your keyboarding skill regularly, you will lose it. To retain your speed and accuracy, you should continue to practice after you have completed this TLA.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 7 ACTIVITIES

OBJECTIVE 11

Use the computer and word processing program to type your hand-written letter and test your typing speed.

TOOLS AND MATERIALS

- Computer
- Word processing program
- Timer
- Your hand-written letter from Day 6

PROCEDURE

FOLLOW THESE STEPS:

STEP 1: **With the computer on and the word processing program loaded, get comfortable, relax, and get in the correct keyboarding position.**

Place your letter to the right of the keyboard. Typing your letter will determine your typing speed and accuracy. Remember not to look at the keyboard and to keep your eyes on the letter you are typing.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 7 ACTIVITIES

FOLLOW THESE STEPS:

STEP 2: Set the timer for the amount of time you want to type (usually 1 to 5 minutes—the longer you type, the more accurate your score).

STEP 3: Start the timer and begin typing your letter. Type the text as accurately as possible, but do not try to go back and correct mistakes.

STEP 4: If you finish typing your letter before you run out of time, start over from the beginning and type as much of the letter as you can a second time.

STEP 5: When the timer goes off, immediately stop typing.

STEP 6: Have your instructor help you print your letter and make a copy.

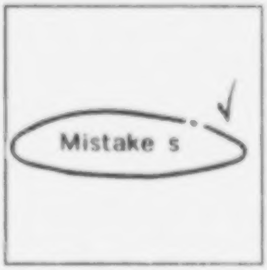
TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 7 ACTIVITIES

FOLLOW THESE STEPS:

STEP 7: Count the number of words you typed, then count and circle your mistakes on the letter.

Write the total number of words at the top of your hand-written letter.



STEP 8: Use the following formula to find how many words per minute you typed:

# of words - # of mistakes
divided by # of minutes typing
= # of words per minute

$$\frac{\#\text{words} - \#\text{mistakes}}{\text{minutes}}$$

Show your work at the top of the page of your letter.

STEP 9: Write your name and your words per minute on the top of the page of your letter.

STEP 10: Ask your instructor how to EXIT the word processing program.

STEP 11: Turn in both your hand-written and your typed letter to your instructor.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 7 ACTIVITIES

KEYBOARDING

FOLLOW THESE STEPS:

WARNING

ELECTROCUTION POSSIBLE. Surge protector carries ELECTRICAL VOLTAGE that can cause death or injury. Do NOT touch electrical plugs or insert ANYTHING into the receptacles.

STEP 12: When you have finished and exited all running programs, turn off the computer.

STEP 13: When you complete Objective 13, return all materials to their proper storage area and clean your work area.

If you finish Day 7 Activities with time left over, you may load the *Typing Tutor 5+* program and play *Letter Invaders* or *Mouse Invaders*, or begin Day 8 Activities.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

On Day 8 you should complete the following activities:

1. Complete all unfinished objectives
2. Read the Impact Statements
3. Complete the Career Search Activity
4. Complete the Posttest
5. Hand in all assignments

DAY 8 ACTIVITIES

SUMMARY OF ACTIVITIES

- ◆ Gain factual information

- ◆ Use standard grammar, spelling, and capitalization
- ◆ State ideas clearly
- ◆ Use complete sentences

- ◆ Compare/evaluate career options

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 8 ACTIVITIES

IMPACT STATEMENTS

ENVIRONMENTAL IMPACT

Keyboarding makes it possible to enter complex data into a computer and run simulation programs that help people understand and even predict the impacts particular events or processes can have on the environment. For example, weather forecasters enter specifics about wind speed, temperature, rainfall, and more to help them predict what the weather will be. They are usually quite accurate for the coming eight to twelve hours. Computers can process satellite data and produce weather maps or be used to study the earth's geological characteristics. Researchers also use simulation programs to test the effects of warming trends on the environment. You have probably heard of some of these studies on the greenhouse effect or global warming.

Computers can process data much more quickly and accurately than people. However, the final result is only as accurate as the initial data. The person who enters the data must have good keyboarding skills to ensure speed and accuracy.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 8 ACTIVITIES

SOCIAL/CULTURAL IMPACT

Because computer programs have made storage and retrieval, filing, data processing, and word processing techniques available to so many people, many social/cultural impacts occur as new applications for computers are discovered.

Software programs can make learning faster and more fun. Many types of instruction and testing are now done on computer. People learning to master computer operations are developing valuable technical and professional skills.

Special jobs that computers perform include helping track airplanes over airports and monitoring body temperature, blood pressure, and other vital signs for patients in intensive care. Businesses use computers for scheduling, making reservations, and setting production goals. Computer models of research projects, engineering designs, and scientific studies allow scientists and technicians to work out problems and make trial tests before actually running experiments. To make these computer operations possible, a skilled keyboard operater enters the data.

ECONOMIC IMPACT

Computers now perform many of the financial tasks that accountants and others who handle money used to have to do by hand. Financial transactions are more efficient when computers can record transactions, keep inventories, list payments and bills due, and keep accurate records in very little space. Because using computers saves time and money, computers have helped make operating costs lower.

Now that small personal computers and hundreds of software programs are more affordable, small businesses and industries and even households are able to afford them. The economic impact is clear — an entire market and industry has grown around computer products and services since the late 1970s. As this market continues to grow, so does the demand for people who can enter the data quickly and accurately.

POLITICAL IMPACT

Federal copyright and product licensing laws protect the writers and producers of computer products. The two major types of computer hardware are patented by the IBM and Apple companies. Software program developers have control over the distribution of their products. To use software programs legally, you must purchase an authorized copy of the software. This purchase gives only you or your company a license to use that product. Making copies for other people happens, but it is illegal.

Computers have many uses in government. For example, records keep links between agencies and offices. Computers control defense systems such as cruise missiles. These missiles, because they have computer "brains," can make quick turns and angles. However, someone has to program them, which requires keyboarding skills. Many military machines — tanks, airplanes, and submarines — are operated with the use of computer systems. These machines can be maneuvered by someone operating a keyboard.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 8 ACTIVITIES

ERGONOMIC IMPACT

Ergonomics means developing products and systems that are comfortable for people to use and that really fit their needs.

Computers and their keyboards have undergone many changes to make them safer and more comfortable for people to use. Carpal tunnel syndrome — a pinched nerve in the hand that results from the stress of repetitive movements — can occur from typing. Consequently, keyboards have been modified to place the keys closer together and have been fitted with legs to keep the keyboard at a more comfortable angle for typing. Other ergonomic advances for keyboard operators include chairs and workstations that promote good posture and screens to eliminate glare from computer monitors.

New trends that will replace traditional keyboarding practices may soon will be widely available. Two of these are the stylus and optical controls. The stylus looks much a like a pen and allows you to write directly on a computer screen and into its disk drive. The optical controls allow you to enter data by eye movement. Both of these methods will help people who cannot use their hands to operate a computer.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 8 ACTIVITIES

CAREER SEARCH ACTIVITY

INSTRUCTIONS

Using the Career Search Abstracts (pages following this activity), read about the occupations listed below. Select two of the occupations that sound most appealing to you. Then on separate pieces of paper, write a one paragraph essay for each occupation explaining why you find it appealing.

RELATED CAREERS

- Computer & Peripheral Equipment Operator
- Data Entry Keyer
- Receptionist and Information Clerk
- Typist
- Word Processor

CAREER SEARCH ABSTRACTS KEYBOARDING AND COMPUTER APPLICATIONS

DAY 8 ACTIVITIES

COMPUTER & PERIPHERAL EQUIPMENT OPERATOR

Nature of the Occupation

Computer and peripheral equipment operators monitor and control electronic data processing systems which are used to process business, scientific, engineering, or other data.

Duties may include but are not limited to the following:
- Determining appropriate equipment from job set-up instructions
- Setting control switches, selecting and loading data and materials needed for the computer run
- Operating computers
- Operating all peripheral equipment, including printers, disk drives and tape readers
- Preparing printouts and other output for distribution to computer users
- Monitoring the computer and equipment for errors and breakdowns
- Determining reason for errors or breakdown
- Maintaining computer time log
- Supervising operators and trainees on equipment
- Assisting in testing and debugging new programs
- Mantaining computer time log

Occupation Specialties

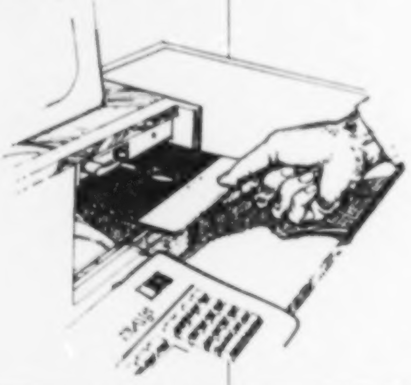
Computer-Peripheral Equipment Operators (213.382-010) control and monitor peripheral machines such as card-tape-converters and high-speed printers used to transfer data from cards and tapes and convert stored data to printed records.

Auxiliary-Equipment Operators (213.685-010) tend machines which sort, assemble, separate, convert or reproduce computer data. These machines include bursting machines, collators, and interpreters.

Working Conditions

Computer and peripheral equipment operators generally work with other people in well-lighted, comfortable surroundings. Because computers must be maintained in a controlled temperature setting, operators usually work in air-conditioned rooms. Much time is spent standing and walking about monitoring and loading the computers. Work areas tend to be noisy.

Computer operators usually work a 5-day, 40-hour week. Overtime, holiday and weekend work may be required to meet specific deadlines. As many computers are in operation 24 hours a day, shift schedules may also be required.



Computer operators may join a union or professional association. Associations may include the American Federation of Information Processing Societies, the Data Processing Management Association and the Association for Computing Machinery. Members of an association or union may pay periodic membership fees.

Tools, Equipment and Materials used may include:
- Input Devices Such as Card or Paper Tape Readers, Magnetic Tape Units and Optical Scanners
- Output Devices Such as High Speed Printers and TV Displays
- Other Devices Such as Consoles, Control Panels.

OCCUPATION SPECIALTIES
DOT CODE
213.362-010 Computer Operator
213.382-010 Computer-Peripheral Equipment Operator
213.685-010 Auxiliary-Equipment Operator
SOC CODE: 461 OES CODE: 56011, 56014

OKLAHOMA CAREER SEARCH

BEST COPY AVAILABLE

CAREER SEARCH ABSTRACTS KEYBOARDING AND COMPUTER APPLICATIONS

DAY 8 ACTIVITIES

COMPUTER & PERIPHERAL EQUIPMENT OPERATOR

Converters, Programs, Punched Cards, Magnetic Tapes, Flow Charts, Job Streams, Procedures Charts and Related Items.

Worker Requirements

You should like:
- Activities which involve the use of machines, processes, and methods
- Activities of a routine, definite and organized nature

You should be able to:
- Work accurately and logically
- Work under pressure
- Follow instructions

Physically you must:
- Be able to use arms and hands
- See well, either naturally or with correction

Special Requirements:

Small firms generally require at least six months experience in data processing while larger firms offer their own training programs.

Opportunities for Experience:

Co-op programs may be available through vocational centers, local high schools and community colleges. All branches of the military service provide opportunities for experience.

Methods of Entry:

Methods of entering the field include applying directly to employers and taking civil service examinations. Positions may also be located by consulting newspaper want ads, school placement offices or state employment offices.

Earnings and Advancement

Earnings depend upon the employer, operator's experience, and seniority.

Earnings:

Nationally, in 1992, computer operators earned a median salary of $383, for an annual salary of $19,916. In 1992, the beginning salary for computer operators with a high school diploma employed by the federal government was about $13,900. The beginning salary of those with one year of college was $15,656. Applicants with operations experience started at higher salaries.

Operators employed in manufacturing, transportation and public utilities had higher earnings than those in finance and retail trade.

Fringe Benefits:

Depending on the employer, computer operators receive paid vacations and holidays; life, accident, disability and hospitalization insurance, retirement plans and sick pay. These benefits are usually paid for, at least in part, by the employer.

Career Ladder for this Occupation may look like this:
- Supervisor
- Lead Computer Operator
- Senior Computer Operator
- Computer Operator
- Trainee

Computer operator trainees advance to higher positions through a combination of training and experience.

Employment and Outlook

There were approximately 282,000 computer operators and 37,000 peripheral equipment operators employed nationally in 1990. Employment of computer and peripheral equipment operators is expected to grow more slowly than the average for all occupations through the year 2005.

Related Education and Training

Level(s) of education and training usually needed for this occupation:
- On-the-job training
- High school diploma or G.E.D.
- High school diploma with vocational education
- Technical, junior or community college

School subjects helpful in preparing for this occupation include:
- Algebra
- Accounting
- Business Data Processing
- Typing
- Computer Science
- Bookkeeping
- Cooperative Education Office/Distribution

More Sources of Information

- Data Processing Management Association
  505 Busse Highway
  Park Ridge, IL 60068

- Association for Computing Machinery
  1515 Broadway
  New York, NY 10036

- Association for Computer Operations Management
  742 East Chapman Avenue
  Orange, CA 92666

- Human Resources Management
  Board of Governors of the Federal Reserve System
  20th & Constitution Ave., NW
  Washington, DC 20551

BEST COPY AVAILABLE

CAREER SEARCH ABSTRACTS KEYBOARDING AND COMPUTER APPLICATIONS

DAY 8 ACTIVITIES

DATA ENTRY KEYER

Nature of the Occupation

Data entry keyers use a keypunch or data coding machine to transfer data onto punch cards, magnetic or paper tape cards. Data entry keyers usually fill forms that appear on a computer screen or enter lists of items or numbers. They may also manipulate existing data, edit current information or proofread new entries to a database. Other duties include entering customers' personal information, orders for supplies or updating membership lists.

Duties may include but are not limited to the following:

- Operating keypunch or data coding machines
- Setting or adjusting machines for specific operations
- Producing control cards or programs
- Verifying accuracy of cards or tapes by using a verifier
- Detecting faulty machine operation
- Removing jammed cards
- Operating machines that automatically sort, merge or match punch cards into specified groups

Occupation Specialties

Word Processing Machine Operators (203.382-030) operate word processing equipment to compile, type, revise, combine, edit, print and store documents.

Data Entry Clerks (203.582-054) enter alphabetic, numeric or symbolic data from documents into computers, suing data entry devices, such as keyboards or optical scanners and following the format displayed on the screen.

Perforator Typists (203.582-038) operate special typewriters that perforate tape or paper for automatic reproduction of data, such as letters, reports and other materials from a master copy.

Varitype Operators (203.382-026) type on electrically-powered machines equipped with changeable type styles to produce master copies which are later used to reproduce final copies that have a printed appearance.

Working Conditions

Data entry keyers generally work as part of an electronic data processing team. They work inside in clean, well-lighted, well-ventilated offices. The offices may be noisy and the work is often repetitive and routine.

Data entry keyers sit most of the time and use their eyes constantly time and use their eyes constantly for close work, which may cause eyestrain.

Data entry keyers usually work a 5-day, 40-hour week, although overtime may be required during busy periods. Evening or night shift work may be required in firms operating round-the-clock computer installations.

Data entry keyers may join unions or professional associations such as the American Federation of Information Processing Societies. Members usually pay dues.

Tools, Equipment and Materials used may include:

- Verifiers
- Interpreters
- Sorters
- Data Recorders
- Keypunch Machines
- Computer Terminals
- Telephones
- Tapes
- Cards
- Collators
- Reproducers
- Electric typewriters

OCCUPATION SPECIALTIES

DOT CODE

DOT CODE	205.382-030	Word Processing Machine Operator
	203.582-054	Data Entry Clerk
	203.582-038	Perforator Typist
	203.382-026	Varitype Operator

SOC CODE: 4793   OES CODE: 56021, 56017

OKLAHOMA
CAREER
SEARCH

BEST COPY AVAILABLE

DATA ENTRY KEYER

Worker Requirements

You should like:
- Activities of a routine and repetitive nature
- Working with machines
- Activities that involve spending time working at a desk or behind a computer terminal or typing equipment

You should be able to:
- Work within precise standards of accuracy
- Continually perform the same work

Physically you must:
- Possess good finger dexterity
- Possess good eye and hand coordination
- Be able to see well, either naturally or with correction
- Be able to sit for long periods of time

Opportunities for Experience:

Co-op programs may be available through vocational centers, high schools or community colleges. All branches of the military service provide opportunities for experience.

Methods of Entry:

Methods of entering this occupation include directly applying to employers and civil service offices. Positions may also be located by consulting newspaper want ads, school placement offices, and state employment offices.

Earnings and Advancement

Earnings depend upon the employer and employee's experience and seniority.

Earnings:

In 1992, average annual earnings of full-time data entry keyers were $18,564. Salaries vary by industry and by region of the country. Those employed in the transportation, utilities, and manufacturing industries earned more than those employed in trade and the financial and service industries. Keyers in the West and Midwest earned more than those in the Northeast and South. Experienced data entry keyers with the federal government averaged $17,118 in 1992.

Fringe Benefits:

Depending on the employer, data entry keyers receive paid vacations and holidays; life, accident, disability and hospitalization insurance; retirement plans; and sick leave. These benefits are usually paid for, at least in part, by employers.

Career Ladder for this Occupation may look like this:
- Programmer
- Operation Supervisor
- Data Entry Keyer

With additional training and education data entry keyers may advance to computer operators or programmers.

Employment and Outlook

Nationally in 1990, there were approximately 1,448,000 typists, word processors and data entry keyers employed in every sector of the economy. Four of every ten held jobs in educational institutions, health care facilities, law offices and firms that provide business services. One in five worked in government agencies at various levels.

Employment in this area is expected to decline through the year 2005 as new technology provides faster, more efficient data entry methods. Job prospects will be best for those data entry keyers with the best technical skills. In particular, the more computer software packages workers know or expertise they have in combining word processing with graphics or spreadsheets, the better their job opportunities will be.

Oklahoma Employment and Outlook

In Oklahoma, 2 job openings for data entry keyers are projected annually until the year 2000. These job openings represent new job growth as well as vacancies created by those leaving the occupation, promotions, retirements, etc. In 1990, data entry keyers held 91 jobs in Oklahoma. They are expected to hold 100 jobs by the year 2000. This is considered a slow growth rate.

Related Education and Training

Level(s) of education and training usually needed for this occupation:
- High school diploma or G.E.D.
- High school diploma with vocational education
- Technical, junior or community college

School subjects helpful in preparing for this occupation include:
- Business Data Processing
- Office Machines
- Typing
- Cooperative Education - Office/Distribution
- Office Practice

More Sources of Information

- Association for Computing Machinery (ACM)
  1515 Broadway
  New York, NY 10036
- American Federation of Information Processing Societies
  1899 Preston White Drive
  Reston, VA 22091

CAREER SEARCH ABSTRACTS KEYBOARDING AND COMPUTER APPLICATIONS

DAY 8 ACTIVITIES

RECEPTIONIST & INFORMATION CLERK

Nature of the Occupation

Receptionists and information clerks greet visitors, clients and customers entering an establishment. They obtain their names and the purpose of their visit and direct them to the proper person or location. They may also perform other clerical tasks such as answering the phone and typing.

Duties may include but are not limited to the following:

- Receiving callers and obtaining their names and the name of the person with whom they are trying to contact
- Making appointments for future visits
- Answering visitors' questions
- Typing letters and other material
- Filing
- Operating a telephone switchboard
- Paging individuals
- Receiving, sorting and delivering mail
- Collecting and distributing messages
- Preparing travel vouchers
- Doing simple bookkeeping
- Making bank deposits

Occupation Specialties

Receptionists (237.367-038) receive callers at an establishment, determine the nature of their visit or telephone call and direct them to the appropriate person.

Appointment Clerks (237.367-010) schedule appointments with employers or other employees for clients and customers by mail, phone or in person. They record the time and date of the appointment in an appointment book.

Working Conditions

Receptionists and information clerks may work in an isolated area under minimum supervision, in glass enclosed booths in an entry hall or in a well-furnished reception room. Work areas are generally well lighted, adequately heated and ventilated and relatively quiet.

Receptionists and information clerks usually work 40 hours a week, Monday through Friday. Some receptionists may be required to work Saturdays. Receptionists and information clerks in hospitals, clinics and doctors' offices may work longer hours or have night or weekend duty. Some work part time.

Receptionists and information clerks may join a union, such as the Office and Professional Employee International Union. Members usually pay dues.

Tools, Equipment and Materials used may include:

- Telephone Switchboards
- Entry Books
- Loudspeakers
- Maps and Schedules
- Computer Terminals
- File Cabinets
- Typewriters

Worker Requirements

You should like:

- Activities involving business contact with people
- Activities of a routine, organized nature

You should be able to:

- Communicate and work well with people
- Remember names and faces
- Be pleasant, tactful and patient
- Make decisions quickly
- Perform a variety of clerical duties
- Continuously perform the same work

OCCUPATION SPECIALTIES
DOT CODE
237.367-038 Receptionist
237.367-010 Appointment Clerk
SOC CODE 4645 OES CODE 55305

OKLAHOMA
CAREER
SEARCH

BEST COPY AVAILABLE

RECEPTIONIST & INFORMATION CLERK

- Write legibly and type accurately
- Maintain a neat personal appearance

Physically you must:
- Have finger and hand dexterity
- See and hear well, either naturally or with correction
- Have clear speech

Opportunities for Experience:
Co-op programs may be available through local high schools, vocational centers or community colleges. Part-time and summer employment in area businesses may also be available.

Methods of Entry:
Methods of entering this occupation include directly applying to employers and civil service offices. Positions may also be located by consulting newspaper want ads, school placement offices, and state employment offices.

Earnings and Advancement

Earnings depend upon the type and size of employer, geographic location and the employee's duties and skill.

Earnings:
In 1992, receptionists and information clerks earned an average weekly salary of $300. Their average annual salary was $15,600. Beginning receptionists and information clerks with a high school diploma employed by the federal government earned an annual salary of $12,947 in 1992. The average salary for all information receptionists employed by the federal government was $18,385 per year.

Earnings in manufacturing, transportation, utilities and wholesale trade are higher than in most service, finance and retail trade.

Fringe Benefits:
Depending on the employer, receptionists may receive paid vacations and holidays, sick leave, group health and life insurance plans, and retirement plans. These benefits are usually paid for, at least in part, by the employer.

Career Ladder for this Occupation may look like this:
- Secretary
- Stenographer
- Head Receptionist
- Receptionist

Promotional opportunities for receptionists depend upon the size of the firm, the clerical skills of the receptionist, and personal qualifications. Receptionists with clerical skills such as typing, shorthand or bookkeeping may be upgraded to other jobs within the firm.

Employment and Outlook

There were approximately 882,000 receptionists and information clerks employed nationally in 1990. Employment is expected to grow much faster than the average rate for all occupations through the year 2005 as business, personal and professional services expand. Since many receptionists also perform secretarial duties, persons with good typing, stenographic and other skills should have the best job prospects.

Oklahoma Employment and Outlook

In Oklahoma, 415 job openings for receptionists and information clerks are projected annually until the year 2000. These job openings represent new job growth as well as employment opportunities created by those leaving the occupation, promotions, retirements, etc. In 1990, receptionists and information clerks held 9,596 jobs in Oklahoma. They are expected to hold 12,296 jobs by the year 2000. This is considered an average growth rate due to the relatively large number of receptionists and information clerks employed in Oklahoma in 1990.

Related Education and Training

Level(s) of education and training usually needed for this occupation:
- High school diploma or G.E.D.
- High school diploma with vocational education

Level(s) of education and training also available for this occupation:
- Technical, junior or community college

School subjects helpful in preparing for this occupation include:
- Business English
- Businesss Math
- Cooperative Education-Office/Distribution
- General Business
- General Clerical
- Typing
- Office Practice

More Sources of Information

- Office and Professional
  Employees International Union
  (AFL-CIO)
  265 West 14th St., Suite 610
  New York, NY 10011

- Association of Independent
  Colleges & Schools
  One Dupont Circle, NW
  Suite 350
  Washington, DC 20036

- Local, State, and Federal Civil Service Offices

- Local School Placement Offices

TYPIST

Nature of the Occupation

Typists help maintain the flow of written communication in offices and businesses by reproducing written, printed, or recorded material into typewritten form. They may also do other clerical tasks such as filing memos, answering phone calls, and operating calculating machines.

Duties may include but are not limited to the following:
- Typing letters, reports, stencils, and forms
- Typing statistical reports and tables
- Addressing envelopes
- Proofreading completed assignments for spelling and grammatical errors
- Verifying totals on report forms, requisitions or bills with an adding machine
- Operate duplicating machines
- Filing records and reports
- Sorting and distributing mail
- Answering telephones

Occupation Specialties

Clerk-Typists (203.362-010) compile data and operate a typewriter or computer to perform routine clerical duties necessary to maintain business records and reports. They may be responsible for filing records, sorting and distributing mail and answering telephones.

Working Conditions

Typists may work alone or with other typists in a typing pool. Work settings will vary according to the office of the employer. Typists frequently work in clean, well lighted, and ventilated offices. They generally sit for long periods.

Typists generally work 37 to 40 hours a week. Overtime frequently occurs, especially during peak times. Office work lends itself to alternative or flexible working arrangements, and many typists hold part time or temporary jobs. Some are freelance typists who are self employed; others get short term jobs through employment agencies that specialize in office temporaries.

Tools, Equipment and Materials used may include:
- Word Processing Machines
- Transcribing (voice reproducing) Machines
- Adding or Calculating Machines
- Memory or Automatic Typewriters
- Tape Recorders
- Duplicating or Photocopying Machines

Worker Requirements

You should like:
- Typing various letters, documents or statistics

You should be able to:
- Follow specific instructions
- Perform repetitive work in an organized manner

Physically you must:
- Possess good finger dexterity
- Possess good eye and hand coordination
- See well, either naturally or with correction

Special Requirements

Employers may require applicants to take a typing test which measures speed and

OCCUPATION SPECIALTIES
DOT CODE
203.582-066 Typist
203.362-010 Clerk Typist
SOC CODE 4624 OES CODE 55308

OKLAHOMA CAREER SEARCH

CAREER SEARCH ABSTRACTS KEYBOARDING AND COMPUTER APPLICATIONS

DAY 8 ACTIVITIES

TYPIST

accuracy. Generally a speed of 50 to 60 words a minute is required. Tests consisting of spelling, grammar and punctuation may also be required.

Opportunities for Experience

Summer or part-time work or co-op programs may be available through vocational centers, local high schools, or community colleges. All branches of the military service also provide opportunities for experience.

Methods of Entry

Methods of entering this occupation include directly applying to employers and taking civil service exams. Positions may also be located by consulting newspaper want ads, school placement offices or state employment offices.

Earnings and Advancement

Earnings depend upon the employer, geographic location, level of position, and employee's skill and experience.

Earnings

In 1992, typists earned an average yearly salary of $18,564 or $357 per week. Word processors averaged $20,709, while data entry keyers averaged $17,119 per year.

In 1992, clerk typists and data entry keyers, without work experience, and employed by the federal government, started at an average yearly salary of $12,756. The average yearly salary for all clerk typists in the federal government in 1992 was about $16,480. For data entry keyers the average yearly salary was about $17,500.

Fringe Benefits

Depending on the employer, typists receive paid vacations and holidays, life and hospitalization insurance, retirement plans and sick pay. These benefits are usually paid for, at least in part, by employers.

Career Ladder for this Occupation may look like this:

- Executive Secretary
- Secretary
- Stenographer
- Typist or Clerk-Typist
- Receptionist

Advancement in private industry may depend upon work experience, training, knowledge of the job, seniority, or supervisory ability. Promotions in government are usually based on examination scores.

Employment and Outlook

In 1990 there were approximately 1,448,000 typists, word processors and data entry keyers employed nationally. Little or no change is expected in the employment of typists through the year 2005. The occupation is exceptionally large and many openings will occur every year because of replacement needs. Every year, a substantial number of typists transfers to other kinds of jobs or leaves the labor force temporarily.

Oklahoma Employment and Outlook

In Oklahoma, 105 job openings for typists are projected annually until the year 2000. All of these job openings represent replacement opportunities created by those leaving the occupation, promotions, retirements, etc. rather than new job growth. In 1990, typists held 6,619 jobs in Oklahoma. They are expected to hold 6,401 by the year 2000. This is a decline in the growth rate.

Related Education and Training

Level(s) of education and training usually needed for this occupation:

- High school diploma or G.E.D.
- High school diploma with vocational education

Level(s) of education and training also available for this occupation:

- Technical, junior or community college

School subjects helpful in preparing for this occupation include:

- Composition
- Business English
- Cooperative Education: Office Distribution
- General Clerical
- Office Practice
- Bookkeeping
- Business Math
- Typing
- General Business
- Office Machines

More Sources of Information

- Professional Secretaries International
  P.O. Box 20404
  Kansas City, MO 64195-0404

- Association of Independent Colleges and Schools
  One Dupont Circle, NW
  Suite 350
  Washington, DC 20036

CAREER SEARCH ABSTRACTS KEYBOARDING AND COMPUTER APPLICATIONS

DAY 8
ACTIVITIES

WORD PROCESSOR

Nature of the Occupation

Word processors use the automated or electric keyboards or consoles of word processing machines to record, edit, store and revise correspondence, reports, statistical tables, forms and other materials. Word-processing machines consist of a keyboard, a video display terminal and a printer.

Duties may include but are not limited to the following:
- Setting controls for margins, spacing, and tabulation
- Typing from the typed or handwritten draft or from machine dictation
- Reading copy for errors
- Searching for a specific set of stored, typed characters in order to make changes
- Retyping and adding or deleting letters, words, or lines to correct errors
- Filing tapes, cards, disks, correspondence, and reports

Occupation Specialties

Photocomposition-Keyboard Operators (203 582 046) operate keyboards of computer terminals equipped with video display screen to record data from manuscript for storage and retrieval into and from computer system for subsequent reproduction as printed matter.

Transcribing-Machine Operators (203 582 058) operate typewriters to transcribe letters, reports, or other recorded data through earphones of transcribing (voice reproducing) machines.

Working Conditions

Beginning word processors generally work under the supervision of a more experienced worker or a clerical supervisor.

Word processors usually work in clean, well lighted, well ventilated offices. Offices may be noisy from office machines or people talking. They must be able to sit for long periods of time.

Most word processors work a 5-day, 35 to 40 hour week. Overtime may occasionally be necessary to complete a project or meet a deadline. Many word processors hold temporary jobs and one in four works part-time. Some are self employed freelance word processors; others are employed by temporary help agencies.

Tools, Equipment and Materials used may include:
- Word Processing Machines
- Files & Paper
- Forms
- Ribbon Cartridges
- Machine Dictation/Transcription Units
- Magnetic Tapes, Cards, or Floppy or Hard Disks
- Print Wheels or Typing Elements
- Tape Erasers
- Teleprocessing Terminals

Worker Requirements

You should like:
- Activities of a routine, definite, organized nature
- Activities involving machines, processes, or methods
- Activities concerned with the communication of information

You should be able to:
- See detail in objects or drawings and recognize slight differences in shapes or shadings
- See details and recognize errors in numbers, spelling, and punctuation in written materials, charts, or tables
- Determine correct grammar, punctuation, and spelling for information received orally
- Repeat tasks of short duration according to a set procedure

OCCUPATION SPECIALTIES
DOT CODE
203 382 022 Word Processing Machine Operator
203 582 046 Photocomposition Keyboard Operator
203 582 058 Transcribing Machine Operator
SOC CODE 4793 OES CODE 55311, 56021

OKLAHOMA
CAREER
SEARCH

CAREER SEARCH ABSTRACTS KEYBOARDING AND COMPUTER APPLICATIONS

DAY 8 ACTIVITIES

WORD PROCESSOR

- Work within precise standards of accuracy
- Make decisions based on verifiable data, using standards that can be checked or measured

Physically you must
- Sit for long periods
- Reach for, handle, finger, and feel objects
- Coordinate the movement of eyes and hands or fingers
- See well, either naturally or with correction

Opportunities for Experience

Summer or part time clerical jobs may offer a chance to sharpen skills and observe the duties of a word processor. Secondary vocational education programs in the business cluster and postsecondary education programs in word processing may offer practical experience through a co-op portion.

Methods of Entry

High school and business school placement services help interested persons find employment in this occupation. Applicants should apply at business personnel offices and look at classified ads in newspapers. Assistance in locating jobs may also be obtained from state employment offices. Persons interested in obtaining employment with government agencies should apply to federal, state, or local civil service offices.

Earnings and Advancement

Earnings of word processors vary according to their experience, level of responsibility, employer, and geographic location.

Earnings

In 1992, word processors earned an average salary of $17,600. Salaries vary by industry. They tend to be highest in the transportation and public utilities industries and lower in industries such as retail trade, insurance, finance and real estate. Similarly, their salaries tend to vary by region of the country, with salaries in the West being the highest.

Fringe Benefits

Depending on the employer, most word processors receive paid vacations and holidays, life, accident, disability and hospitalization insurance, retirement plans, and sick pay. Some employers may offer savings and stock investment plans. These benefits are usually paid for, at least in part, by the employer.

Career Ladder for this Occupation may look like this:
- Word Processing Supervisor
- Word Processor
- Trainee

Advancement usually comes after additional education or training or with experience and seniority and can take several forms. Many word processors consider higher pay a form of advancement. Word processors may also advance to other jobs that involve originating, proof-reading and editing documents, establishing and coordinating priorities within a unit; supervising other word processors or providing management direction for word processing and administrative services.

Employment and Outlook

In 1990, there were 1,448,000 typists, including word processors and data entry keyers, employed in all sectors of the economy. Four of every ten worked for educational institutions, hospitals, law offices, and business service firms. About 20 percent worked for federal, state, and local governments.

Little or no change in employment is expected for typists, data entry keyers and word processors through the year 2005.

There will continue to be substantial openings because of the many word processors who retire or transfer to other occupations.

The best job prospects will be for those word processors with the best technical skills. Knowing many word processing programs, particularly the more complex ones, will qualify a word processor for more jobs.

Related Education and Training

Level(s) of education and training usually needed for this occupation:
- High school diploma or G.E.D.

School subjects helpful in preparing for this occupation include:
- College Preparatory
- Business English
- Office Machine
- Typing
- Business Data Processing
- Business Law
- Office Practice

More Sources of Information

- Association of Information
  Systems Professionals
  104 Wilmot Rd., Suite 201
  Deerfield, IL 60015

- National Association of
  Professional Word Processing
  Technicians
  110 West Byberry Road (E2)
  Philadelphia, PA 19116

- Professional Secretaries
  International
  10502 NW Ambassador Dr.
  Kansas City, MO 64195-0404

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

DAY 8 ACTIVITIES

POSTTEST

INSTRUCTIONS

You will need a computer scan sheet or card to record your answers to the following Posttest. Be sure to write your name, the title of the TLA, the date, and the class period on the computer scan sheet or card using a #2 pencil. Use rows 11-20 to record the answers to the Posttest. If your answers will be hand-scored, use a blank sheet of notebook paper to record your answers and number your answers 11-20.

SPELLING TEST

Use rows 21-30 to record the answers to the Spelling test. If the word is spelled correctly, mark (a) on the computer score sheet or card. If the word is spelled incorrectly, mark (b) on the test card. Be sure to use a #2 pencil and make your marks dark. If your answers will be hand-scored, use a blank sheet of notebook paper to record your answers and number your answers 21-30.

Get the Posttest questions from your instructor.

When you finish the Posttest, hand the Posttest and answers to your instructor.

If you finish Day 8 Activities with time left over, you may begin the Skunk Works Activity.

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

The term *Skunk Works* comes from an engineering division of the 3M Company. In the late 1960s a group of engineers at 3M wanted to design a new product, but the managers of the company would not give them the money for research. So they decided to design the product anyway, then try to convince the company to make it. Whenever the engineers could grab a few extra minutes from their regular assignments, they worked on the new product. In early 1969 they presented it to the marketing division of 3M, and the company has been selling it ever since. The product: Velcro fasteners.

SKUNK WORKS

BACKGROUND

TECHNOLOGY EDUCATION KEYBOARDING AND COMPUTER APPLICATIONS

SKUNK WORKS

SKUNK WORKS CHALLENGE

Your challenge in this Skunk Works is to use the computer and word processing program to create a document. You can type a letter, a report for another class, etc. Experiment with some of the following features:

- Margins and page length.
- Type size and style.
- Double or single spacing.
- Justified or ragged (uneven) right-hand margins.

See below for examples of some of these features. When you are finished, print your document and turn it in to your instructor.

This is an example of different type sizes.
This is an example of different type sizes.

This is an example of different type styles.
This is an example of different type styles.
This is an example of different type styles.

This is an example of different type faces.
This is an example of different type faces.

This is an example of a ragged right (also called left justified or unjustified) margin. Notice that the lines are not even on the right side of this paragraph. As you type, the computer will use "word wrap" to move down to the next line.

This is an example of a justified margin. Notice that the text fills the entire line and all lines end at the same place. The computer adjusts the white space between words and letters to make all lines the same length.

OKLAHOMA
TSA
173